SOCIAL SUPPORT AND THE CHILD CARE OF HIGH RISK MOTHERS

By

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TABLE OF CONTENTS

		Page
ACKNOWLEDGEMENTS		ii
LIST OF TABLES		v
ABSTRACT		vii
CHAPTER		
I	INTRODUCTION	1
	The Problem	1
	Hypotheses	2
	Need for the Study	2
	Limitations of the Study	8
	Definition of Terms	9
	Organization of the Study	10
	Summary	11
II	REVIEW OF THE LITERATURE	13
	Conceptual Framework for Social Support	13
	Definitions of Social Support	16
	Functions of Social Support	17
	Social Support and Health	19
	Social Support and Child Development	19
	Research Related to Social Support	23
	Mother-Child Interaction and Child Development	31
	Summary	45
III	METHODOLOGY	47
	Hypotheses Tested	47
	Description of Subjects	48
	Instrumentation	55
	Data Collection	57
	Data Analysis	58
	Summary	61

Page

IV RESULTS..... 62

Analysis of Mother-Child Interaction Scores... 62
Analysis of Social Support Resources Scores... 63
Analysis of the Number of Available Social Support Resources Scores and Mother-Child Interaction Scores..... 74
Analysis of the Perceived Level of Social Support Scores and Mother-Child Interaction Scores..... 77
Summary..... 79

V DISCUSSION, CONCLUSIONS, AND IMPLICATIONS..... 81

Discussion of Findings..... 81
Conclusions and Implications..... 90

APPENDICES

A PERSONAL RESOURCE QUESTIONNAIRE..... 94

B NURSING CHILD ASSESSMENT FEEDING SCALE..... 102

C CONSENT FORM..... 105

REFERENCES..... 106

BIOGRAPHICAL SKETCH..... 115

LIST OF TABLES

Table		Page
1	Age Distribution of Mothers by Subject Groups (in Years)	49
2	Years of Education Completed by Mothers by Subject Groups (in Years)	51
3	Race Distribution of All Mothers by Subject Groups	52
4	Distribution of Medically High Risk Mothers by Subject Groups	54
5	One-Way Analysis of Variance Results for Mother's Sensitivity to Cues Subscale NCAFS Score	64
6	One-Way Analysis of Variance Results for Response to Distress Subscale NCAFS Score	64
7	One-Way Analysis of Variance Results for the Social-Emotional Growth Fostering Subscale NCAFS Score	65
8	One-Way Analysis of Variance Results for the Cognitive Growth Fostering Subscale NCAFS Score	65
9	One-Way Analysis of Variance Results for the Child's Clarity of Cues Subscale NCAFS Score	66
10	One-Way Analysis of Variance Results for the Child's Responsiveness to Parent Subscale NCAFS Score	66
11	One-Way Analysis of Variance Results for the Total NCAFS Score	67
12	Null Hypothesis I: Summary of NCAFS Analyses	68
13	One-Way Analysis of Variance Results for Resources Available in Times of Urgent Needs	70

Table		Page
14	One-Way Analysis of Variance Results for Resources Available to Care for a Sick or Handicapped Family Member.....	70
15	One-Way Analysis of Variance Results for Resources Available in Time of Problems in Relationships with Spouse, Partner, or Significant Other.....	71
16	One-Way Analysis of Variance Results for Resources Available to Help or Give Advice for a Problem with a Family Member or Friend...	71
17	One-Way Analysis of Variance Results for Resources Available to Help with Financial Problems.....	72
18	One-Way Analysis of Variance Results for Resources Available in Times of Loneliness.....	72
19	One-Way Analysis of Variance Results for Resources Available in Times of Illness.....	73
20	One-Way Analysis of Variance Results for Resources Available When the Mother Is Upset or Frustrated with Life Conditions.....	73
21	One-Way Analysis of Variance Results for Resources Available When the Mother Is Having Problems at Work in Home or Place of Employment.....	74
22	One-Way Analysis of Variance Results for Resources Available to Talk with About Personal Concerns.....	74
23	Null Hypothesis II: Summary of PRQ-Part 1 Analyses.....	75
24	Percentage of Single Adolescent Mother Subjects (A), Single Older Mother Subjects (O), and Total Percentage (T) of Choice of Social Support Across Ten Life Situations.....	76
25	Multiple Correlation Results for Mother's Perceived Level of Social Support Score and Mother-Child Interaction Score.....	78

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In this study, the relationships between maternal age, social support, and perceived social support to mother-child interaction were examined. The sample consisted of 33 single adolescent mother-child pairs and 33 single older mother-child pairs.

The mothers and their children were observed during a feeding session. Data were collected using the Nursing Child Assessment Feeding Scale to assess mother-child interaction. The Personal Resource Questionnaire was completed by each mother to assess the social support available during specified life situations and the mother's perceived level of social support.

Four null hypotheses were tested using data from the feeding scale and social support questionnaire. Analyses of the data revealed that single adolescent mothers and single older mothers differed in their interaction with their

children. A statistically significant difference ($p < .05$) in mother-child interaction between the two groups was found that favored the older mothers. Adolescent mothers and older mothers did not differ in the amount of social support resources available to them. The relationship between the number of social support resources available to mothers and the ways they interacted with their children was not statistically significant in the population studied. Analysis did reveal, however, a statistically significant relationship ($p < .05$) between the variables of mother's perceived social support and mother-child interaction. The implications of these research results were discussed.

CHAPTER I

INTRODUCTION

The Problem

The purpose of this research was to study single adolescent mothers and single older mothers by investigating (a) the relationship of maternal age to mother-child interaction and (b) the relationship of social support and perceived social support to mother-child interaction. The variables examined in the study were the mother's age, the mother's available social support resources, the mother's perceived level of social support, and mother-child interaction.

The following questions were addressed by the research:

1. Does mother-child interaction in single mothers differ with maternal age?

2. Does the amount of social support available to single mothers differ with maternal age?

3. How is the amount of social support available to single mothers related to variation in mother-child interaction?

4. How does perceived social support relate to mother-child interaction during the first year of parenthood?

Hypotheses

The following null hypotheses were tested:

Hypothesis I. There will be no significant differences ($p < .05$) in the measures of mother-child interaction between single adolescent mothers and single older mothers.

Hypothesis II. There will be no significant differences ($p < .05$) between measures of social support resources available to single adolescent mothers and single older mothers.

Hypothesis III. There will be no significant relationship ($p < .05$) between the measure of the number of social support resources available to single adolescent mothers and single older mothers (as measured by the Personal Resource Questionnaire, PRQ-Part 1) and the measure of mother-child interaction.

Hypothesis IV. There will be no significant relationship ($p < .05$) between the measure of perceived social support (as measured by the PRQ-Part 2) and the measure of mother-child interaction in single adolescent mothers and single older mothers.

Need for the Study

The dramatic increase in teenage childbearing and subsequent parenthood had produced a need for more research related to the childrearing practices of young parents. Investigators, in recent years, have addressed the practices

and attitudes of middle-class mothers in the traditional nuclear family setting (Williams, 1974). Systematic research on adolescent parenting, however, was woefully lacking (Furstenberg, 1976).

Many investigators had established correlative relationships between maternal behaviors and infant cognitive development. Research findings from various population groups had shown that a variety of maternal behaviors such as mutual gazing, contingent response to distress, and more general attentiveness influenced cognitive outcomes in children. Beckwith (1971); Yarrow, Rubenstein, Pedersen, and Jankowski (1972); as well as Beckwith, Cohen, Kopp, Parmelee, and Marcy (1976), had been important contributors to the study of cognitive development in young children. Several investigators (Bradley & Caldwell, 1980; Clarke-Stewart, 1973; Elardo, Bradley, & Caldwell, 1975) found measures of infant competence to be associated with certain aspects of maternal behaviors and the physical environment.

A crucial maternal behavior was that of mother-child interaction. Defining the quality of mother-child interaction had been a complex and multidimensional research problem. The phenomenon of interactional differences among population age groups was still being studied. The risk of early childbearing was an area receiving much public attention.

Findings from a few studies had shown positive relationships between maternal age and the intellectual development of children. Children of teenage mothers had been found to have lower levels of performance on IQ tests (Hofheimer, 1979/1980) and to result in below average academic achievement at seven years of age (Broman, 1981). These children also had lower reading levels and were more likely to demonstrate behavioral problems (Broman, 1981; Oppel & Royston, 1971). Infants of teenage mothers had been found to have significantly lower Bayley scores for motor and mental development (Landy, Montgomery, Schubert, Cleland, & Clark, 1983). Teenage mothers were more likely to have unrealistic expectations of their children's development than older mothers (Field, 1981) and to express less verbal behavior and responsiveness to their children's cues (Field, 1981; Landy et al., 1983; Roosa, Fitzgerald, & Carson, 1982).

Adolescent parenting also had adverse socioeconomic consequences (Furstenberg, 1976; Hardy, King, Shipp, & Welcher, 1981; Hardy, Welcher, Stanley, & Dallas, 1978; Hoffert & Moore, 1979). The transition to parenthood was problematic for these individuals. Teenage mothers were more likely to become school dropouts, had more marital instability, earned less income, and had higher rates of subsequent childbearing. Higher rates of child abuse also had been associated with teenage parenting (de Lissovoy,

1973). Considering the consequences that these social factors imposed, the effects on the developing child were potentially harmful.

Insufficient research had been done on the role of social support in mediating the effects of stressors on adolescent childbearing and childrearing. Investigators needed to consider the mother's perception of social support resources (Steglin, 1983/1984), as well as the influences of social support networks upon the development of the child (Baldwin & Cole, 1980). Although the concept of social support networks for mothers was hardly a new one, its potential effects on maternal behaviors and the qualitative development of children was a relatively new area for research. Since it had been found that the availability of social support for the mother may have an effect on the quality of a child's development, it seemed important to investigate the possible influence of social support networks on mother-child interaction. This study has thus examined the relationship of maternal age to mother-child interaction and the possible influence of the mother's social support on the quality of mother-child interaction.

A few investigators had linked the availability of support systems to the quality of child development. Bee, Barnard, Eyres, Gray, Hammond, Spietz, Snyder, and Clark (1982) provided evidence that environmental quality and mother-infant interaction measures taken in the first year of life were predictive of later IQ and language

performance. Family habits and patterns, organization and enrichment of the home, as well as social support resources were found to have been important components of environmental quality. Elements of mother-child interaction which were found favorable to later child performance were identified as maternal attentiveness, mood, irritability and adaptability, and the nature of give and take of reciprocal exchanges between mother and infant. Cochran and Brassard (1979) also found that the parent's social support network and the reciprocal exchanges between parents and network members had indirectly influenced child development.

Bronfenbrenner's (1979) ecological theory was representative of general systems theory in which a set of units was interconnected and interrelated as an open system. Thus, the family, conceptualized as a system, may have been influenced by friends, neighbors, community groups and agencies, as well as numerous other factors in the environment. Fawcett (1975) described the family as a living open system that was constantly developing, evolving, and engaged in mutual exchange with the environment. When regarded in this way, it becomes a social unit made up of interdependent relationships with each individual involved with and affected by others in the total system (Sedgwick, 1974).

Social support networks could become mechanisms for enhancing parenting practices (Unger & Wandersman, 1985). Norbeck and Shiner (1982) found that successful functioning

of single parents depended upon close relationships with family members or friends. When mothers did not have such close relationships, children exhibited behavioral and emotional problems.

The social support network of the single mother was found to be composed of ties with other family members, such as parents and siblings. Emotional support as well as tangible support in the form of money, child care, and performance of services often was provided. Other sources of support came from friends, community organizations, and social groups (McLanahan, Wedemeyer, & Adelberg, 1981).

Family support programs could be designed to help parents establish community based social networks (Halpern, 1986). Research by Powell (1980) demonstrated that parents could be assisted in developing better social skills and interpersonal relationships. Parents could participate in social events and recreation as well as exchanges of child care, thus strengthening their own social networks. Powell's findings augmented Cochran and Brassard's (1979) thesis that a child's development could be indirectly influenced by the parent's social support network acting upon the parent.

The possible relationships between social support resources and the quality of mother-child interaction was an area for further research. Social support and its effect on parenting and family functioning could be critical to the qualitative development of children (Cotterell, 1986).

Future research might consider the relationship between social support systems and mother-child interaction and the importance of kin systems for young, single mothers (Crnic, Greenberg, Robinson, & Ragozin, 1984). Accordingly, the current research study was designed to add knowledge of mother-child interaction and the possible influence of the mother's social support network on the development of her child.

Limitations of the Study

1. The study sample was selected from a low socioeconomic group who attended a Dade County community health facility. Generalization of the research findings could be directed only to this population.

2. Given the reliability level of the instruments used in the study, any significant findings could have been attenuated because of measurement limitations.

3. Internal validity of the study could be threatened because of the difficulty in measuring mother-child interaction. Variability of a subject's behavior and responses because of mood changes, and the subject's reaction to a particular situation or circumstance, could be a limitation of the instrument or observation period. A subject's behavior could have been altered during the feeding session due to the presence of an observer. It should be noted, however, that the subject and the observer

were known to each other as a result of previous encounters during a home or clinic visit.

4. The research design allowed the investigation of relationships among variables, but did not provide sufficient information to infer causality.

Given apparent limitations, the study represented an effort to gain information on the possible relationship of mother's age and social support network to mother-child interaction. This research study has been designed to provide useful information to the professional who works with parents and children in efforts to improve the quality of parent education programs.

Definition of Terms

Terms were defined as follows:

High risk mother. A high risk mother was one who was at risk for developing medical complications during pregnancy because of age, medical history, current medical status, or socioeconomic factors.

Single adolescent mother. A single adolescent mother was one who was under the age of 20 years and had never been married.

Single older mother. A single older mother was one who was 20 years of age or older who was not married.

Mother-child interaction. Mother-child interaction referred to specific actions or behaviors which occurred in

a feeding situation between mother and child as described on the Nursing Child Assessment Feeding Scale.

Nursing child assessment feeding score. Nursing child assessment feeding score was a measure of mother-child interaction obtained from the observation of a feeding situation.

Field visit. A field visit was a visit made by a public health nurse to the home of a client for the purpose of data collection, teaching, counseling, and the provision of nursing service.

Social support. Social support was defined as all the resources, both tangible and emotional, provided to an individual by members of a social support network.

Social support network. Social support network referred to those individuals and/or agencies who engaged in activities and exchanges with another individual or family for the purpose of enhancing the well-being of the recipient.

Perceived social support. Perceived social support referred to an individual's perception of the availability of social support.

Organization of the Study

This dissertation has been divided into five chapters. Pertinent literature and research studies are reviewed in Chapter II. Included in this review are a conceptual

framework for social support, a review of social support literature and research, and a review of the literature related to mother-child interaction and child development. Chapter III contains a description of the subjects, instrumentation, data collection procedures, and methods of data analysis. The results and analyses of the null hypotheses are presented in Chapter IV. Chapter V includes discussion of the findings, conclusions, and implications.

Summary

The purpose of the study was to investigate (a) how maternal age is related to mother-child interaction in single mothers and (b) how available social support and perceived social support are related to mother-child interaction in single mothers. Single adolescent mothers and single older mothers who were at risk during pregnancy were compared on measures of social support, perceived social support, and mother-child interaction.

The variables under investigation in the study were the mother's age, the mother's available social support resources, the mother's perceived level of social support, and mother-child interaction.

Findings of earlier research had indicated that social support could indirectly influence a child's development through its effects on the mother. Further research was

needed to validate these claims and more clearly define these relationships.

CHAPTER II

REVIEW OF THE LITERATURE

This study is an investigation of the relationship between maternal age and mother-child interaction and the possible influences of social support and perceived social support on the quality of mother-child interaction. Pertinent literature is reviewed in this chapter.

The literature review is organized as follows: (a) conceptual framework for social support, (b) definitions of social support, (c) functions of social support, (d) social support and health, (e) social support and child development, (f) research related to social support, and (g) mother-child interaction and child development.

Conceptual Framework for Social Support

In 1987, a social network was a concept that referred to the interpersonal relationships an individual has with relatives, friends, neighbors, colleagues, and other defined persons (Powell, 1980; Speck & Rueveni, 1969). Social networks were "ties one has with a group of people and the links within the group" (Leavy, 1983, p. 4).

Family networks and kinship behavior have received a great deal of study by sociologists and anthropologists.

Bott (1971) pioneered work in the study of family social systems and defined a network as "all or some of the social units with whom a particular individual or group is in contact" (p. 320). There was agreement among some sociologists that a kinship system functions for most urban families (Nye & Berardo, 1973). Adams (1970) and Sussman and Burchinal (1962) found that family interaction was frequent among the majority of the population. It had been asserted in some early studies that kin ties were stronger among the working class (Adams, 1970), although later studies had not substantiated this relationship (Lee, 1980). Parsons (1951) claimed that the American nuclear family was isolated from a kinship network. Although traditional family patterns may have been altered, modified urban kinship systems did encourage communication and assistance among kin groups (Litwak & Szelenyi, 1969). Many families kept in touch by telephone, letter, and telegram. Modern transportation systems had facilitated the maintenance of kin networks despite geographical separation (Sussman & Burchinal, 1962).

In the 1960s and 1970s, American families were linked together into functioning networks that provided aid and services to members. They gave each other financial aid and other supportive services such as counseling, performing tasks, and care of children (Sussman & Burchinal, 1962). Ethnographic research of black families in a midwestern community (Stack, 1974) and a rural Florida community

(Dougherty, 1978) had provided excellent analyses of kinship behavior among network members. Stack noted that a variety of strategies for supporting and reinforcing each other were developed as a means of survival in the face of poverty and economic deprivation. Reciprocal exchanges and the conscious expansion of an individual's personal network linked members together into "webs of social relations and obligations" (p. 30). Single women, in particular, maintained and depended on relationships with relatives and friends. Child care arrangements and shared responsibilities were commonplace and were provided by the individual's network of kin and friends (Dougherty, 1978). Teenage mothers often shared their parental rights and responsibilities with an adult female. At times a child was given to a relative or acquaintance who expressed her desire for the child. Bonds of alliance and mutual obligation were developed and strengthened through such arrangements. Stack (1974) admitted that exchanges were not always beneficial. The sharing of limited resources actually could keep mothers in poverty rather than enabling them to improve their economic status. Natural support systems as well as societal support systems were used by black families to promote parent and child development (Stevens, 1981).

Natural support systems were used by Speck and Rueveni (1969) in their work with severely disturbed families. In developing a therapeutic network, they discovered that the nuclear family as well as the extended family, neighbors,

and friends played a significant role in providing support and encouragement. By working with all members of a kinship system, Speck and Rueveni (1969) were successful in modifying relationships between family members and thus promoting mentally healthy behaviors in schizophrenic individuals.

Definitions of Social Support

By 1987, research on social support had gained in popularity. Social scientists had attempted to come to some agreement as to the way social support was conceptualized; however, differences were still evident. The lack of specificity in definitions of social support was a major hindrance in interpreting the results of social support research. A persistent lack of agreement existed regarding the essential components of the construct. One area of accord was the concept of reciprocity which emphasized mutually beneficial supportive exchanges.

Several major theorists have defined social support. A comparison of definitions is illustrative of the diverse viewpoints:

> An enduring pattern of continuous or intermittent ties that play a significant part in maintaining the psychological and physical integrity of the individual over time. (Caplan, 1974, p. 7)

> Information leading the subject to believe that he is cared for and loved, esteemed and a member of a network of mutual obligations. (Cobb, 1976, p. 300)

> Involves nurturance, empathy, encouragement, information, material assistance, and expressions of sharedness. (Mechanic, 1977, p. 85)
>
> Support accessible to an individual through social ties to other individuals, groups, and the larger community. (Lin, Ensel, Simeone, & Kuo, 1979, p. 109)
>
> An exchange of resources between at least two individuals perceived by the provider or the recipient to be intended to enhance the well-being of the recipient. (Shumaker & Brownell, 1984, p. 13)

In his review of the literature, Leavy (1983) sought to clarify the meaning of social support. Through his analysis, Leavy concluded that social support ought to be viewed as an environmental factor and within the context of how families, organizations, and communities provided support resources to those in need. Leavy (1983) perceived social support as "the availability of helping relationships and the quality of those relationships, both the structure and content of the phenomenon" (p. 5).

Functions of Social Support

In an effort to bring some clarity to the concept of social support, Barrera and Ainlay (1983) developed a typology of social support functions. Using the literary work of major theorists in the field, they conceptualized social support into six behavioral transactions:

> (a) material aid: providing tangible materials in the form of money and other physical objects; (b) behavioral assistance: sharing of tasks through physical labor; (c) intimate interaction: traditional nondirective counseling behaviors such

> as listening and expressing esteem, caring, and understanding; (d) guidance: offering advice, information, or instruction; (e) feedback: providing individuals with feedback about their behavior, thoughts, or feelings; and (f) positive social interaction: engaging in social interactions for fun and relaxation. (Barrera & Ainlay, 1983, p. 135)

There were several dimensions of social support that were generally considered to be salient to the provision of support. The theory of person-environment fit referred to the congruency of support exchange to the need of the individual (Shumaker & Brownell, 1984) and the recipient's perception that the benefits were helpful or harmful (Shinn, Lehmann, & Wong, 1984). A lack of correspondence or fit did not necessarily mean a lack of support. Shinn et al. (1984) viewed the importance of fit along five dimensions: (a) support should be provided in the right amount to allow for individual autonomy and self-sufficiency, (b) the timing of support could require adjustments in the type of support and when to provide it, (c) sources of support could vary under different circumstances, (d) the structure of support and its relation to density of networks could differ in its ability to facilitate adjustment to life changes, and (e) various members of the network could be relied upon for different functions of support. Goodness of fit between the individual and the environment depends upon "a match between the demands of the environment and the person's abilities to meet them on the one hand, and the needs of the individual and the resources from the environment available to satisfy these needs on the other" (Broadhead, Kaplan, James, Wagner,

Schoenbach, Grimson, Heyden, Tibblin, & Gehlbach, 1983, p. 528).

Social Support and Health

The importance of social support to the health and well-being of individuals was described by Cobb (1976) and Schaefer, Coyne, and Lazarus (1981). Caplan (1974) wrote that by using social supports, one could maintain a healthy state while in the midst of harmful environmental agents. John Cassel, a physician and epidemiologist, was the first individual to address the importance of interpersonal relationships and their importance to health (Brownell & Shumaker, 1984). He theorized that group support would buffer one from the harmful effects of illness (Cassel, 1976). The general assumption was that social support acts as an antecedent factor by reducing the likelihood of adverse life events, or as a buffering factor following the occurrence of a life event, that controls or lessens the interpretation and emotional response to the event. The more social support an individual receives from relationships with family, kin, friends, colleagues, and communal ties, the less likely one will experience illness (Lin et al., 1979).

Social Support and Child Development

Theorists such as Bronfenbrenner and Cochran and Brassard have been concerned with human growth and

development from an ecological viewpoint. Bronfenbrenner's (1979) ecology of human development provided an environmental perspective of viewing a child's development. Bronfenbrenner postulated that human development takes place within an environmental context and must be analyzed in systems terms. This ecological orientation allowed that the effects of all objects and people with whom the individual responds or interacts was of equal importance. Their influence, direct or indirect, on the developing person was dynamic.

Cochran and Brassard (1979) introduced a conceptual model for assessing the influence of social networks on the development of the child. They viewed the child's personal network as exogenous of the immediate family. That is, an individual's network consisted of individuals outside of the household in the form of "kin, neighbors, friends, schoolmates, and workmates" (p. 602).

Cochran and Brassard (1979) explained that social networks could influence the child either directly or indirectly. Indirect influences could affect the child through the environmental impact network members had upon the parents. A parent's social network that involved a mutual exchange of material and supportive assistance had been found to be related to positive maternal behaviors. Another indirect influence was the encouragement and sanction of child-rearing behavior and the shaping of parenting styles. A third influence was the adoption or

modification of parenting practices that occurred as a result of observing the behavior of network members.

Direct influences could come through a child's contact with individuals and the interaction that occurs between them. A parent's social network could provide many opportunities for cognitive and social stimulation (Cochran & Brassard, 1979). A broad range of interaction styles and patterns could introduce the child to a variety of behaviors, relationships, and stimuli. These experiences, according to Cochran and Brassard (1979), could provide opportunities for development of the child. Other direct influences upon a child's development could be through day care services and observational models. Day care providers could provide direct support to parents as well as serving as role models.

Cochran and Brassard (1979) encouraged the systematic inquiry of the influence of social networks on child development. Since very few investigators had examined this dimension of human development, they believed that further research was needed to examine the relation of social networks to cognitive functioning. Cognitive abilities identified as possibly being influenced by a child's social system were (a) the development of perceptual differentiation, (b) the development of skills and the engagement of children in goal-oriented tasks, (c) the development of representational modes of thinking and

cognitive memory, and (d) cognitive receptiveness and the interest in a variety of activities.

The social development of children could also be influenced by network variables. Cochran and Brassard (1979) speculated that the development of attachment was related to network variables. In particular, infants would be able to relate more easily with strangers if they earlier had developed the capability of multiple attachments. Another element related to social development was the fostering of maternal competence through frequent contact with the mother's social network.

In summary, social support had been defined by a number of theorists. Its contribution to family functioning had been validated by social scientists. Scientific interest in social support as a variable which could affect health had increased in recent years. There was in 1987 some evidence that lack of social support was associated with negative health outcomes. Social support had been implicated in the etiology of mental and physical illness. Research findings had shown that people had less physical illness and psychopathology if they had sufficient social support. There had been attempts to establish links between social support and the cognitive development of children. Social support and levels of life stress had been found to be important predictors of later IQ and language (Bee et al., 1982). Therefore, social support networks and the discovery

of their relation to later cognitive performance were thought to be important for further investigation.

How could a child's development be influenced by social support? Since network influences could be both direct and indirect, environmental quality could influence human development (Bradley & Caldwell, 1980) and social transactions could also affect developmental schedules (Beckwith et al., 1976). Material and emotional support for parent and child as well as the sanctioning of parental behaviors could serve as factors which provide strength and competence to children and their mothers.

Research Related to Social Support

By 1987, epidemiological research had been undertaken to look at associations between stressful life events or life transitions and illness. Positive relationships had been found between the seriousness of illness and magnitude of life change. Vulnerability to disease had been found to be greater as life change increased (Holmes & Masuda, 1974).

Research findings had shown that conditions such as heart disease, childhood leukemia, fractures, suicides, and psychiatric illness were linked to stressful life events (Holmes & Masuda, 1974). The notion that social support could mediate between stressful life events and adverse health consequences was a fairly recent idea. Cobb (1976),

in his comprehensive review of studies, found strong evidence that social support was protective over a number of life transitions and could mediate the effects of pathological states such as complications of pregnancy, tuberculosis, arthritis, alcoholism, and psychiatric illness.

Miller, Ingham, and Davidson (1976) measured the severity of physical and psychological symptoms with the degree of social support and the occurrence of threatening and non-threatening life events. In a study of 34 subjects who had received medical consultation and 34 persons comprising a control group, matched for age and sex, the investigators examined the occurrence of headache, backache, dizziness, palpitations, breathlessness, and psychological symptoms of depression, anxiety, tiredness, and irritability. Using stepwise multiple regression techniques, these symptoms were used as dependent variables to be predicted from measures of social support and the number of threatening or non-threatening events experienced during the three months prior to the study. The findings indicated highly significant correlations between threatening events and psychological symptoms in the experimental group. Apparently, they concluded, a person's initial reaction to a stressful event is psychological in nature and is followed by physical symptoms if the stress is without resolution. As life events occur, a stress threshold may be exceeded, and thus an accumulation of

events may actually exacerbate the psychological symptoms. Higher symptom levels and a greater number of threatening events were found to be more frequent in those subjects with few casual friends (Miller et al., 1976).

Several investigators had explored the effects of psychosocial variables on complications of pregnancy. Nuckolls, Cassel, and Kaplan (1972) were influential in directing the development of social support research with the findings of their study. In a large sample of subjects recruited from the obstetrical service of a large military hospital, these investigators studied the relationship among psychosocial assets, social stresses, and the prognosis of pregnancy. From the data drawn from their sample, they found that those women who had greater psychosocial assets manifested fewer complications as life events increased. Their concluding hypothesis was that high psychosocial stress levels in combination with low support resources enhanced a person's susceptibility to disease.

The relationship of anxiety, depression, and low self-esteem to the complications of pregnancy was examined by Norbeck and Tilden (1983). A multiphasic battery of tests was used to assess the impact of life events and to measure levels of social support, anxiety, depression, and self-esteem. Data were gathered to test the following hypotheses: (a) life stress will be positively related and social support will be negatively related to emotional

disequilibrium and (b) high life stress, low social support, and high emotional disequilibrium will be positively related to complications of pregnancy. The study involved a sample of 117 women with pregnancies between 12 and 20 weeks of gestation, who were classified as medically normal with no preexisting medical risk factors. The sample was considered to be of middle socioeconomic status. Testing by questionnaire and a medical chart review were done following postpartum discharge. Analyses of the data showed significant relationships among selected psychological variables, social support, and pregnancy complications. Pearson correlations showed high intercorrelations between measures of anxiety, depression, and self-esteem, with a similar pattern of association to outcome measures. High stress was significantly related to emotional disequilibrium and complications of pregnancy. Subjects who experienced high stress and low emotional support demonstrated greater emotional disequilibrium. Main effects for life stress and life events from the previous year were related to complications of pregnancy. These findings were not found by Nuckolls et al. (1972); however, the significant interaction between life stress during pregnancy and social support was consistent with the findings of Nuckolls et al. (1972).

The absence of consensus about the definition of social support and the lack of agreement in discriminating among sources of support was lamented by Carveth and Gottlieb

(1979). These investigators attempted to clarify the meaning of social support and its relationship to stress and to determine any differential relationship in social support sources. In a survey study of 99 new mothers, approximately eight weeks postpartum, types of social support and its association to stress were examined. Correlational data revealed low to moderate associations between measures of social support and stress. These researchers suggested that members of a social network contribute to a person's support depending upon the need. For example, as patterns of need change, a person's contact with network members such as physician, mother, husband, or friends also changes. Many people apparently use both formal and informal support network resources in their help-seeking behavior. Furthermore, this behavior is related to age, gender, socioeconomic status and type of problem (Neighbors & Jackson, 1984).

Wandersman, Wandersman, and Kahn (1980) studied different types of social support and the association to parental adjustment in the postpartum period. These investigators were interested in examining the influences of (a) parenting group support, (b) instrumental or spouse support, (c) emotional or marital support, and (d) network member support. The goal of their research was to understand the benefits and relationships of various kinds of support and its importance to individuals during transition periods. Data obtained by questionnaire

from experimental and control groups indicated that types of social support were important to the need presented and were related to the specific adjustment task. Further investigation, however, was recommended to determine how the types of social support were related to parental adjustment.

The purpose of a study by Colletta and Gregg (1981) was to investigate how adolescent mothers respond to and cope with stress and to look at the effects of social support and its role in mediating the negative consequences of stressful life events. Data were collected on a sample of 64 adolescent mothers who attended high school in a large metropolitan area. Subjects were between 14 and 19 years of age who averaged 16.27 years of age when their children were born.

An interview schedule was designed to obtain information about the mother's perception of her emotional stress and coping style. Social support was measured by asking the mother what individual and institutions had given her help with her problems. The data from the study indicated that maternal behaviors were positively related to an active social support system. Adolescent mothers with high levels of support reported lower levels of emotional stress. High self-esteem scores were also associated with lower levels of stress. The mothers who used a direct action coping style demonstrated lower levels of stress than mothers who showed emotional or avoidance behaviors.

Findings from the study indicated that support systems were an essential variable for alleviating stress reactions in adolescent mothers. Knowledge of support networks was found to be helpful in identifying mothers who were at risk because of inadequate coping responses to stressful life experiences.

Using Bronfenbrenner's ecological model, Garbarino (1976) studied the incidence of child abuse and maltreatment and the relation to parental support systems. Garbarino (1976) concluded that the etiology of child abuse and maltreatment was directly influenced by socioeconomic forces. The degree of support given by an institutional system to foster parent-child interaction was considered to be a critical factor in the incidence of child abuse.

A research design was developed by Garbarino (1976) to test the hypothesis that the rate of child abuse and maltreatment was directly related to the socioeconomic support system for the family. The data revealed that families with more human resources would demonstrate lower rates of child abuse and maltreatment, whereas families with few human resources had higher rates of child abuse and maltreatment. The study was conducted in New York State using United States census data. Several ecological indices for parenting support systems were chosen for analysis because of their impact on the family. These indices were (a) transience, (b) economic development, (c) utilization of

educational resources, (d) rurality-urbanism, and (e) socioeconomic status of the mother.

Stepwise multiple regression was used to analyze the data. A substantial amount of the variance in child abuse was associated with inadequate support systems and economic stress. Although Garbarino (1976) acknowledged the limitations of the study, he concluded that economic distress had a profound impact on mothers as well as the community. In particular, the mother who was alone in the role of parent was frequently isolated and left to cope without adequate resources. Garbarino suggested that improving parental support systems via monetary and child care services could be a viable way to prevent child abuse and maltreatment.

In a later study Garbarino and Sherman (1980) looked at neighborhood differences and patterns that might assist in identifying high risk neighborhoods for child abuse and neglect. Comparing two neighborhoods, distinct differences were found between the high risk area and the low risk area. Families in the low risk neighborhood were resourceful in using social networks and obtaining services. They were self-sufficient and engaged in reciprocal neighborly exchanges. Mothers in the high risk area were less involved with the community. There was less reciprocal exchange and inadequate child care. High risk neighborhoods were characterized as being socially impoverished, with struggling families clustering together and competing for

scarce social resources. The research findings denote the importance of environmental quality as a factor in improving family functioning and child rearing. The findings of Garbarino and Sherman (1980) corresponded with Cochran and Brassard's (1979) conclusion that the parent's social network and the reciprocal exchanges between members of the network could enhance human development.

Mother-Child Interaction and Child Development

Transactions between the mother and her infant had been the focus of many investigations over the last 20 years. Findings from these studies had identified elements of maternal behavior that were related to subsequent developmental outcomes for children. By use of a variety of measurements and populations, relationships had been established between cognitive development in children and influences of the home environment.

Specific variables had been identified that were related to an infant's language, cognitive, and social-emotional growth (Clarke-Stewart, 1973; Yarrow et al., 1972). Variables such as the amount and variety of stimulation provided the infant (Lewis & Goldberg, 1969), the quality of inanimate stimulation (Bradley & Caldwell, 1980; Elardo et al., 1975), the caregiver's sensitivity to the infant's signals (Ainsworth & Bell, 1975; Yarrow et al., 1972), and contingent mother-infant interaction (Beckwith et al., 1976; Clarke-Stewart, 1973) had been found to be

related to better performance on intelligence tests. Contingent responsiveness also had been specifically linked with motivation (Lewis & Goldberg, 1969), cognitive, motor and psychomotor ability (Yarrow et al., 1972), and overall infant competence (Clarke-Stewart, 1973).

In early studies, investigators exploring parent-infant relationships provided data showing that optimal development of the infant was associated with the process of attachment between the child and parent (Ainsworth, Bell, & Stayton, 1972; Beckwith et al., 1976; Clarke-Stewart, 1973; Klaus & Kennell, 1982). The phenomenon of attachment had received a considerable amount of study. In particular, Klaus and Kennell (1982) contended that mother-infant interaction immediately following birth of the child served as a stimulus for the mother and evoked mothering behaviors. They believed that any threat to this bonding process could lead to disturbed parent-child relationships.

To understand the development of attachment and its importance to the growth of the child, it was important to realize that the formation of a mother's bond to her infant begins prior to the pregnancy and proceeds in stages to the birth and subsequent care of the child (Klaus & Kennell, 1982). The newborn further prompts maternal behavior by its appearance of helplessness and through crying behavior (Bell, 1974).

Other influences which could affect the mother as caregiver and determine her behavior toward her infant were

the effects of cultural influences within the environment and the process of imitation and modeling to which she had been exposed. The mother could have learned her mothering behaviors through observation or her own experiences and, in turn, behave in culturally determined ways to her own child. Since it was believed that this bonding process provides a basis for all subsequent relationships and is necessary for optimal development of the child, it was critical that persons working with mothers and children understand the influence bonding may have upon the growth of the child and family.

Through studies of maternal-infant interaction certain factors had been identified as signifying attachment behaviors. Those behavioral mechanisms had been described as mutual gazing, maternal touching, vocalization, and body movement (Klaus & Kennell, 1982). The essential quality of interactional behavior, however, was the rhythmic, cyclic pattern that develops between the mother-infant dyad. Brazelton, Koslowski, and Main (1974) observed this rhythmic behavior in videotaped films of five mother and infant pairs. Similarly, Condon and Sander (1974) noted that the newborn infant had the capacity to move rhythmically to the sound of the mother's voice. This movement was described as a synchronized dance between mother and infant. This ability of the infant to communicate was thought to promote the attachment process and was the beginning of reciprocal

interactions between parents and infant (Klaus & Kennell, 1982).

In studies of mother-infant interaction, investigators had shown that patterns of maternal interaction were significantly related to a child's social, language, and cognitive development. Environmental mediation, social behaviors such as talking with the baby, touching and holding, social play, and contingency behavior could lead to infant competence. Lewis and Coates (1980), in a study of 280 mothers and their 12-week old infants, found maternal behaviors such as touching, holding, vocalization, smiling, playing, and kissing, to be positively related to higher Bayley MDI scores. To validate these findings, a second study was conducted by the investigators using a different sample. Data collection of 189 mother-infant pairs was similar to the first study. Again, measures of maternal responsivity and interaction level were positively and significantly related to Bayley MDI scores.

Using Gesell Developmental Schedule and a sensorimotor scale, Beckwith et al. (1976) found that transactions between the infant and caregiver were related to test performance. Higher sensorimotor scores were associated with vocalizing and mutual gazing to the caregiver at eight months. Infants who had been allowed more floor freedom and had more contingent response to their behavior had higher sensorimotor scores at nine months. In previous research Yarrow et al. (1972) had shown that contingent

behaviors, although manifested at different ages, were a significant social dimension that indicated maternal sensitivity to infant signals. It had also been noted that maternal responsiveness could create an expectancy belief in the infant that his/her behavior could affect the environment (Lewis & Goldberg, 1969) and lead to exploratory behavior in the infant and mastery of the environment which could further enhance the competency of the infant (Beckwith et al., 1976).

Recognition of the infant as an active competent contributor to the interactive process rather than a passive inert organism was an accepted concept among investigators (Beckwith et al., 1976; Brazelton et al., 1974; Schaffer, 1977). These researchers had shown that the newborn infant had the ability to organize and regulate his behavior (Brazelton et al., 1974) and could discriminate among stimuli (Klaus & Kennell, 1982) as well as show a preference for some. The infant was able to stimulate parent interaction in several ways (Bell, 1974). By providing clear cues to the caregiver, the infant was able to define and maintain a threshold of sensory limits so that tolerance and accommodations by the parent could be accomplished. Another contribution of the infant was the susceptibility to alter or modulate states of consciousness and allow social interactions to occur (Bell, 1974; Korner, 1974). Infant consciousness state determined to what extent the infant could perceive and react to a stimulus. The state of the

infant could be manipulated to some degree by the caregiver to allow for more interaction with the environment. For example, the caregiver enabled the infant to attend to a stimulus by bringing an infant from a drowsy or crying state to an alert state (Affonso, 1976; Blackburn, 1983). The infant's visual alert state had been recognized as being a time when parents could interact favorably with the infant and further encourage the development of attachment.

The quality of mother-infant interaction on the development of the infant had been investigated as well. In a sample of 36 low-income mothers and infants, Clarke-Stewart (1973) found that a child's social competence was advanced through reciprocal transactions. Other measures included in the study were those of assessing mother responsivity and attentiveness. The quality of verbal stimulation was found to be the most influential factor and closely related to a child's language ability. Quantity of stimulation was not related to optimal child development. Other dimensions of maternal behavior found to be predictive of the child's cognitive functioning were level of maternal responsiveness, affective warmth or affectionate behavior, and the frequency of responsiveness. The mother's role as environmental mediator between the infant and the environment was also noted to be of importance to the infant's development.

There was persuasive evidence to show that infant development was dependent upon early relationships between

the child and mother and the existence of a system of reciprocal interaction. While recognizing the importance of the contributions of these relationships, some investigators had proposed looking at other aspects of the behavior between parents and their children. The dimension of child temperament and how it affected the caregiver was another aspect of maternal interactive behavior which had been explored. Thomas, Chess, and Birch (1968), in the New York Longitudinal Study (NYLS) had focused research on the relation of child temperament to developmental outcomes.

Defined in terms of behavioral characteristics, temperament had been classified into nine distinguishable categories. Those categories were activity level, adaptability, approach or withdrawal, distractibility, intensity of response, persistence and attention span, quality of mood, rhythmicity, and threshold of responsiveness (Chess & Thomas, 1983).

Through their research and analysis of findings, Chess and Thomas (1983) originated the following three temperamental groups that could be displayed by children:

1. Easy Child--An easy child is one who is adaptable, happy in mood, positive to change and new situations, and biologically regular.

2. Difficult Child--A difficult child is one who is irregular in biologic functions, slow to adapt, withdraws from new situations, and exhibits negative, intense mood expressions.

3. Slow-to-Warm-Up Child--Such a child is one who demonstrates a combination of behaviors. Behavioral responses are generally negative to new stimuli with slow adaptability over time. Biologic rhythms tend to be regular.

Temperament of the child represented a quality which could be modified by environmental factors. Temperament could also influence parental behavior and the interactional process between parents and child (Chess & Thomas, 1983).

The issue of "goodness of fit" between the child's behavioral style and parenting practice was a dimension which had been found to be important to a positive relationship between parent and child (Chess & Thomas, 1983; Gordon, 1981). The idea of "fit" was a complex one (Gordon, 1983) since it interacted with many variables such as age and gender of the child as well as personality and parenting style of the parent.

A number of researchers had examined the association between temperament and development in children. In a sample of 31 children, Moller (1983) studied relationships between measures of temperament and measures of cognitive development in preschool children. Several significant relationships were found to exist between temperament and development. Correlational data revealed that children who were adaptable, persistent, approachable, mildly active, rhythmic, and had a positive mood, attained a higher level of cognitive and motor development during their preschool

years. School adjustment, adaptability, and problem solving during the early school years had been linked to temperament (Carey, Fox, & McDevitt, 1977). Low academic achievement scores of grade school children were found to be associated with the temperamental characteristics of nonadaptability and withdrawal (Chess, Thomas, & Cameron, 1976).

Several investigators had studied the dimension of child temperament and how it affected the caregiver. Researchers had reported significant associations between maternal-child interaction and child development. Milliones (1978) found that the more difficult child elicited less maternal responsiveness in his sample of 24 children and their mothers. Campbell (1979) also explored maternal behaviors in relation to infant temperament ratings. She found that babies who were rated as difficult by their mothers at three months of age were observed to cry longer and more frequently than babies not rated as difficult. Babies rated as difficult had less responsive mothering. The mothers spent less time interacting with and vocalizing to their infants and were less responsive to their social cues.

Mother-child interaction patterns had been examined to determine if there were differences in the behaviors between abusive and non-abusive mothers. A study by Bousha and Twentyman (1984) looked at three groups of mothers (N = 12), and their interactional style with their children. The three groups were classified as (a) mothers with a history

of child abuse, (b) mothers with a history of child neglect, and (c) mothers with no known history of child maltreatment. The purpose of the study was to compare differences in patterns of behavior among these groups of mothers and their children.

Mothers in the abuse and neglect groups were recruited from social service centers and control group mothers were from local day care centers. Control mothers were matched for social class, race, age, and number of children. Data were collected by two observers who visited the family for 90 minutes on three consecutive days. Observer reliability was achieved with a median correlation of .88. Information describing 11 interactional patterns was documented. These categories included such behaviors as non-verbal instruction, non-verbal affection, verbal affection, and verbal aggression.

Considerable differences among groups were shown in the findings. Neglectful mothers demonstrated the least interaction and less frequent verbal instruction with their children. These children were less verbal and had few social initiations, but had high rates of physical aggression. Abusive mothers had higher rates of physical and verbal aggression and seemed to prefer physical aggression as their method of interaction. Bousha and Twentyman (1984) suggested that because of these differences, intervention programs needed to be aimed toward both groups. The therapeutic regimen for neglectful mothers

should be directed toward increasing their social interaction; abusive mothers would benefit from efforts to reduce their aggressive behaviors.

Quality of mother-infant attachment could be affected by infant characteristics, maternal behavior, and social support. Crockenberg (1981) and Crockenberg and McCluskey (1986) postulated that a mother's responsiveness and subsequent attachment to her child could be influenced by her social support system. Data about infant behaviors were obtained using the Brazelton neonatal behavioral assessment scale. Maternal responsiveness was measured through observations of mother-infant interactions during home visits; and social support information was elicited by interviewing the mother and asking whether support had been provided by her husband, children, friends, and neighbors whenever she felt it was needed. The study sample included 46 Caucasian and 2 Asian-American mothers and their infants. All of the mothers had completed high school and all families were intact, with fathers attending college or employed.

Analyses were conducted using hierarchical multiple regression for selected attachment measures. It was shown that mothers with high social support had less resistant, less avoidant babies. Frequency data revealed a significant relationship between social support and security of attachment ($X^2(1) = 9.04$, $p \leq .003$). Other frequency data revealed a consistent association between maternal social

support and mother-infant attachment. Low levels of support were associated with inadequate attachment behaviors, while high levels of support were associated with a more secure attachment process. These findings by Crockenberg (1981) and Crockenberg and McCluskey (1986) supported Bronfenbrenner's (1979) ecological model of human development, as well as Cochran and Brassard's (1979) notion that the development of attachment was related to network variables.

Weinraub and Wolf (1983) investigated the effects of stress and social networks on mother-infant interaction in their exploratory study. Comparisons were made between 14 single mothers and their children and 14 matched married women and children. Salient questions studied were concerned with the effects of life events and available social support to mother-child interaction and differences related to mother-child interactions in single parent versus two-parent families. Although analyses of the data showed no statistically significant findings, tentative findings indicated that single parents had fewer social supports and were perhaps at greater risk for less than optimal parenting behaviors. Single parents also experienced more frequent stressful life events which tended to correlate with decreased maternal nurturance. Parental effectiveness of both groups of mothers was enhanced by social supports. Effectiveness was shown to decrease as stress increased.

The relationship between maternal social support and a validated measure of home stimulation was assessed in a study of 69 families (Pascoe, Loda, Jeffries, & Earp, 1981). Two home visits were made to each family to gather data. Cognitive stimulation and emotional tone were assessed using Caldwell's Inventory of Home Stimulation. Social support information was obtained through a structured interview using the Maternal Social Support Index. Families were predominantly rural and working class whose children had been discharged from a neonatal intensive care unit three years before the study.

Stepwise multiple linear regression and Pearson product-moment correlations were conducted to analyze the data. The Inventory of Home Stimulation was positively correlated with maternal social support ($p < .01$). The Maternal Social Support Index was positively associated with subscales on the Inventory Home Stimulation that defined quality of environment. Pascoe et al. (1981) suggested that support networks and home environment could affect a child's learning opportunities; however, larger studies were needed to clarify the relationship between maternal social support and quality of environment.

In a four-year longitudinal study Bee et al. (1982) found that measures of perinatal status, family ecology, child performance, and mother-infant interaction has some potential for predicting a child's IQ and language skills. Subjects were 193 healthy mothers and their infants of

middle socioeconomic status. Although a number of measures were included in this study, those of environmental quality and parent-infant interaction taken in the first year of life were good predictors of later IQ and language performance. Clusters of variables described as family ecology were found to predict later IQ and language better than any other cluster of measures. Social support was found to be an equally potent predictor. In view of these findings, additional research related to the role of social support to parent-infant interaction as predictors of later child outcome was needed (Bee et al., 1982).

How influential social support was on maternal functioning, parenting, and child development had not received much study (Crnic et al., 1984). High risk and normal mothers and their infants participated in a study designed to examine these relationships. Over a period of 18 months, information was collected regarding life stress, social support, life satisfaction, and maternal attitudes. Behavioral observations between mothers and infants were recorded by videotape. These interactions were later rated on a scale. Subscales such as sensitivity to infant's cues, social-emotional growth fostering, and cognitive growth fostering were scored. Infant cognitive development as well as language development was assessed at 4 and 12 months of age using the Bayley Scales of infant development.

Multiple regression analyses were used to look at the effects of support variables and life stress on dependent

measures of maternal attitudes, mother-infant interaction, and infant development. It was clearly shown that intimate and community support had a significant effect on maternal life satisfaction and parenting attitudes. Maternal stress also was related to less positive infant behaviors, with younger mothers showing less intimate support than older ones ($F = (1,100) = 5.8$, $p < .01$) and greater stress ($F(1,102) = 3.4$, $p \leq .06$).

Summary

The literature related to the nature of social networks, the effects of social supports on health, and the influence of maternal behaviors on the quality of child development was reviewed in this chapter. The data from these studies have shown that social support was important to the health and well-being of individuals and that the quality of maternal behaviors could influence a child's development.

Relationships had been discovered among social support, parenting attitudes, and the quality of maternal behaviors. Active support networks had been shown to be positively related to maternal behaviors. These maternal behaviors were of primary importance to the development of the child. Since research findings were limited regarding the effects of social support on maternal functioning and child development, there was a need for more research that

could enlarge the knowledge base concerning the risks associated with inadequacies these variables could present to the family.

Limitations to the cited research were reflected in several areas. Some of the studies were correlational rather than experimental, thereby preventing the determination of cause and effect. Small sample size (Bousha & Twentyman, 1984; Weinraub & Wolf, 1983) as well as constraints in sampling limited the generalizability of research findings. The use of questionnaires helped to supply missing data (Carveth & Gottlieb, 1979) and subsequent problems with the interpretation of data. Despite these shortcomings, it was hoped that future studies could provide information that could enable the professional to assist families to strengthen the family unit and the development of its members. Continued research could give investigators a better understanding of the multidimensionality of social support and maternal-child interaction.

Is social support a factor or variable which can be associated with improvement in the quality of mother-child interaction? This current study was designed to investigate this question. The procedures describing the design of this study are presented in Chapter III.

CHAPTER III

METHODOLOGY

The purpose of this study was to investigate (a) the relationship of maternal age to mother-child interaction and (b) the relationship of social support and perceived social support to mother-child interaction.

Hypotheses Tested

Hypothesis I. There will be no significant differences ($p < .05$) in the measures of mother-child interaction between single adolescent mothers and single older mothers.

Hypothesis II. There will be no significant differences ($p < .05$) between measures of social support resources available to single adolescent mothers and single older mothers.

Hypothesis III. There will be no significant relationship ($p < .05$) between the measure of the number of social support resources available to single adolescent mothers and single older mothers (as measured by the PRQ-Part 1) and the measure of mother-child interaction.

Hypothesis IV. There will be no significant relationship ($p < .05$) between the measure of perceived

social support (as measured by the PRQ-Part 2) and the measure of mother-child interaction in single adolescent mothers and single older mothers.

Description of Subjects

An admissions registration log which was available at a community health center in South Dade County, Miami, Florida, was used to identify a pool of single mother subjects for the study. The pool consisted of 63 adolescent mothers and 111 older mothers whose youngest child ranged in age from 4 to 12 months. A convenience sample was drawn (N = 66) on the basis of mothers' ages (< 20 and ≥ 20 years). Clients in both groups were assigned a number beginning with zero. Using a table of random numbers, a sample of 33 adolescent mother-child pairs and 33 older mother-child pairs was obtained for the study.

Descriptive data on the single adolescent mother subjects and the single older mother subjects are presented. See Tables 1, 2, 3, and 4 for data related to maternal age, education, race of subjects, and medical high risk status.

Maternal Age

Data on maternal age which were available for all 66 mother subjects are presented on Table 1. The mean age for the single adolescent mother subjects was 18 years

(S.D. = 1.2). The mean age for the single older mother subjects was 27 years (S.D. = 5.3). The median age for the single adolescent mother subjects and the single older mother subjects was 18 years and 27 years, respectively. There was a statistically significant difference in age between the two groups ($F(1,64) = 106.11$, $p < .000$).

Table 1

Age Distribution of Mothers by Subject Groups (in Years)

Subject Group	Age	Frequency	%
Adolescent	15	1	3.0
	16	4	12.1
	17	8	24.2
	18	8	24.2
	19	12	36.5
Total		33	100.0
Older	20-24	12	36.4
	25-29	8	24.2
	30-34	9	27.3
	35-38	4	12.1
Total		33	100.0

Maternal Level of Education

As shown in Table 2, data on education completed by all mother subjects were collected. Twelve of the single adolescent mothers had completed 12 years of education. The mean level of maternal education for the single adolescent mother subjects was 11 years (S.D. = 1.2). Twenty-three of the single older mothers had completed 12 years of education. The mean level of maternal education for the single older mother subjects was 11 years (S.D. = 1.3). The median educational level for the single adolescent mother subjects and the single older mother subjects was 11 years and 12 years, respectively. The single older mother subjects had attained a higher level of education which was found to be statistically significant ($F(1,64) = 4.36$, $p < .04$).

Mother's Race

Data collected on the race of all subjects are presented in Table 3. This population sample reflected similarity between the two groups for racial distribution. There was no statistically significant difference between the two groups ($\chi^2(2) = 1.31$, N.S.).

Mother's High Risk Status

All subjects in the study were assigned to a high risk status during pregnancy because of social and/or medical

Table 2

Years of Education Completed by Mothers by Subject Groups (in Years)

Education	Adolescent		Older		Total	
	Frequency	%	Frequency	%	Frequency	%
9 or less	6	18.2	2	6.0	8	12.0
10	8	24.2	4	12.0	12	18.0
11	7	21.2	4	12.0	11	17.0
12	12	36.4	23	70.0	35	53.0
Total	33	100.0	33	100.0	66	100.0

Table 3

Race Distribution of All Mothers by Subject Groups

	Adolescent		Older		Total	
Race	Frequency	%	Frequency	%	Frequency	%
Black	29	88.0	26	79.0	55	83.0
Hispanic	3	9.0	4	12.0	7	11.0
White	1	3.0	3	9.0	4	6.0
Total	33	100.0	33	100.0	66	100.0

factors. Clients who received health services at the health facility had to meet a financial eligibility requirement as determined by poverty guidelines. All subjects were designated to be socially high risk because of their socioeconomic circumstances. A number of subjects were determined to be medically high risk because of the presence of certain health factors, such as hypertension, renal conditions, and nutritional deficiencies. Data showing the medical risk distribution of all mother subjects are presented in Table 4. There was no statistically significant difference between the two groups in medical high risk status ($\chi^2(1) = .00$, $p < 1.0$).

The children in the study ranged in age from 4 to 12 months. The mean age of the children of the adolescent and older mothers was 7.5 months (S.D. = 2.8) and 7.3 months (S.D. = 2.4), respectively. There was no significant difference in age of the children between the two groups ($F(1,64) = .11$, $p < .74$).

All children in the sample were classified as full-term by gestational age. The birthweights ranged from 5.6 to 9.5 pounds. The mean birthweight of children born to adolescent and older mothers was 7.14 (S.D. = .91) and 7.20 (S.D. = .86) pounds, respectively. There was no significant difference in birthweight of children between the two groups ($F(1,64) = .09$, $p < .77$).

At the time of the study, all of the children were considered healthy and had no existing health problems.

Table 4

Distribution of Medically High Risk Mothers by Subject Groups

Medical Risk	Adolescent		Older		Total	
	Frequency	%	Frequency	%	Frequency	%
Yes	16	48.0	16	48.0	32	48.0
No	17	52.0	17	52.0	34	52.0
Total	33	100.0	33	100.0	66	100.0

None had been assigned to a medically high risk category.

In summary, the subjects for the study were single adolescent mothers and single older mothers and their youngest child who received health services from a community health facility in South Dade County, Miami, Florida. The mother subjects were assigned to a high risk category during pregnancy because of socioeconomic and/or medical factors. All subjects voluntarily sought health services for themselves and their children.

Instrumentation

The instrument used to collect data on the subject's social support system was the Personal Resource Questionnaire (PRQ) designed by Brandt and Weinert (1981). The PRQ consisted of two measures of social support (see Appendix A). The first section of the questionnaire measured the number of social support resources a person could depend on across 10 life situations. Information was provided about an individual's social support network on which she could rely for situational support. The second part of the PRQ was a 25-item Likert scale which measured the subject's perceived level of social support. Functions of social support were assessed in five areas: (a) relationship with another adult, (b) adult and child relationships, (c) opportunity for relationships with other

adults who have similar interests, (d) relationships with others to validate the person's self-worth, and (e) relationships with others during times of difficulty (Brandt & Weinert, 1981). An internal consistency reliability coefficient of a = .89 was obtained using Cronbach's alpha for the total PRQ-Part 2. Content validity was established by having a number of professors, researchers, and community people critique the instrument for clarity and relevance of content. Predictive validity coefficients ranged from .21 to .23 ($p < .004$) for the PRQ-Part 1 and .30 to .44 ($p \leq .001$) for the PRQ-Part 2. Brandt and Weinert (1981) acknowledged this to be a modest correlation and further testing of the total PRQ to be necessary in order to confirm predictive validity of this measure to outcomes of family functioning.

The Nursing Child Assessment Feeding Scale (NCAFS) was used to collect data on mother-child interaction. This instrument was developed by Barnard (1978) and designed to look at specific interactive occurrences between child and parent. The NCAFS consisted of 76 binary items that were organized into six subscales which described parent-child behaviors (see Appendix B). They were (a) parent's sensitivity to cues, (b) parent's response to the child's distress, (c) social-emotional growth fostering, (d) cognitive growth fostering, (e) child's clarity of cues, and (f) child's responsiveness to parent. Reliability information had been measured for each subscale. Cronbach's

alpha estimates ranged from .70 to .88, with the total parent score .90 and total child score .82 (Barnard, Booth, Mitchell, & Telzrow, 1983).

Data Collection

The study was conducted in Dade County, Florida. Subjects participating in the study were clients who received health services from a community health center in South Dade County.

Three nurses were trained by the researcher to use the NCAFS. A training workshop was given for the nurses to instruct them on the use of the scale. Supervised home visits with the researcher were made to observe feeding sessions and to practice using the NCAFS. Practice sessions were made until interobserver reliability of 90% was obtained. Subsequent observer reliability during the data collection period was confirmed. Through shared home visits with the nurses, feeding sessions were observed and scored, maintaining a 90% interobserver agreement. The PRQ was self-administered by the mother subjects.

All data were gathered during a scheduled home visit by the nurse. Clients were contacted via telephone to explain the purpose of the study and to arrange for a home visit. Verbal consent to participate in the study was given by clients and appointments were made for home visits.

At the time of the home visits, the purpose of the study was again discussed with clients and all subjects gave

written consent to participate. Confidentiality of information was assured.

Data Analysis

The intent of this research was to study the relationship of maternal age, social support, and perceived social support to mother-child interaction. Data were collected for the age of the mother subjects, actual social support resources available in specified life situations, and the mother's perceived level of social support as measured by the PRQ. Part 1 of the PRQ measured the number of resources a person could count on across 10 life situations. The range of scores was from 1 through 13. This section of the PRQ was scored by adding up the number of resources the subject indicated she could count on for help in each situation (Brandt, 1981/1982). Part 2 of the PRQ was a 25-item Likert scale which measured the individual's perceived level of support. The range of scores on each item was from 1 through 7. This section of the PRQ was also scored by summing the responses to the 25 items (Brandt, 1981/1982). The scores on these two scales reflected the total amount of social support resources available to the individual and the person's perceived level of social support.

Six dimensions of mother-child interaction were represented by scores on the Nursing Child Assessment

Feeding Scale which resulted in the measurement of six dependent variables. The dependent variables were (a) mother's sensitivity to cues score, (b) mother's response to distress score, (c) mother's social-emotional growth fostering score, (d) child's clarity of cues score, and (e) child's responsiveness to parent score. All subscales of the NCAFS were scored by summing each of the scales. A dimension of mother-child interaction was reflected by each of the scores. The total score for NCAFS was also measured.

This descriptive study used the following statistical analyses to test the hypotheses posed. One-way analysis of variance was used to examine mean differences between age groups and the dependent variables of mother-child interaction and available social support resources. The one-way analysis of variance method was used to examine two group means to see if the means of the groups differed significantly. Hypotheses I and II were tested using this statistical method.

Pearson product-moment correlation was used to test hypothesis III. This method of analysis was conducted to examine the degree of relationship that existed between the measure of available social support resources (the PRQ-Part 1 summed) and the measure of mother-child interaction (total NCAFS score).

Hypothesis IV was tested using the statistical method of multiple correlation. Multiple correlation analysis

assessed the strength of the relationship between the variables of perceived social support (the 25 items in PRQ-Part 2) and the variable of mother-child interaction (total NCAFS score). A stepwise regression procedure was conducted in which all of the variables of perceived social support were sorted. Based on their maximum contribution to the variance, five variables were selected (see items f, g, j, k, and q in Appendix B). The five measures of the mother's perceived level of social support were grouped to obtain a multiple correlation coefficient. The coefficient of multiple correlation, R, was an index of the magnitude of the relation between the predicted value of perceived level of social support and the criterion value of mother-child interaction. The proportion of variance that the dependent variable shared with the independent variable was indicated by R^2 (Kerlinger, 1973).

It must be acknowledged that the multiple correlation coefficient is not an unbiased estimate of the population correlation coefficient. The extent of the bias depends on factors such as the population values of the multiple correlation coefficient, the size of the sample, and the number of predictor variables. The extent of the bias in R^2 decreases with an increase in sample size and increases with the additional number of predictors. This tendency for the multiple correlation coefficient to decrease is called shrinkage, and a formula can be used to estimate the amount

of shrinkage in the multiple correlation coefficient (Crocker & Algina, 1986; Nunnally, 1978).

Descriptive statistics also were prepared on all measures. They included mean scores, standard deviations, and frequency distributions.

Summary

The research design for the study was descriptive. The design permitted the investigation of existing variables related to age of mother subjects, social support and perceived social support, and mother-child interaction. Included in this chapter was a description of the subjects, the procedure for conducting the study, the instruments chosen for data collection, and the methods of data analysis.

CHAPTER IV

RESULTS

The purpose of this study was to investigate (a) the relationship of maternal age to mother-child interaction and (b) the relationship of social support and perceived social support to mother-child interaction.

Presented in this chapter are data concerning mother-child interaction and social support. It includes descriptive data on mother-child interaction and social support variables and a presentation of data in relation to the four hypotheses.

The summary tables which show the data for the one-way analyses of variance procedures are constructed to show the source of variation (Source), degrees of freedom (df), sum of squares (SS), mean square (MS), F value (F), and probability level (Prob.).

Analysis of Mother-Child Interaction Scores

Null hypothesis I stated that there would be no significant difference in the measures of mother-child interaction between single adolescent mothers and single older mothers. One-way analysis of variance was applied to

the scores of all subscales and total score for the NCAFS. The results for this hypothesis are presented in Tables 5, 6, 7, 8, 9, 10, and 11. The F values resulting from testing null hypothesis I indicated that there was a significant difference in mother's sensitivity to cues, social-emotional growth fostering, and total NCAFS score that favored the older mother subjects. These findings are summarized in Table 12.

Analysis of Social Support Resources Scores

Null hypothesis II stated that there would be no significant difference between measures of social support resources reported by single adolescent mothers and single older mothers. Data were collected using the PRQ-Part 1 to measure the availability of consistent and varied resources that could be counted on in 10 life situations. For each life situation, the subject could select parent, child or children, spouse or partner or significant other, relative, friend, neighbor or co-worker, spiritual advisor, professional, agency, self-help group, no one available, prefer to handle alone, and other. The results of the one-way analyses of variance examining this hypothesis are shown in Tables 13, 14, 15, 16, 17, 18, 19, 20, 21, and 22. The F values resulting from testing null hypothesis II indicated that there was a significant difference between the two groups for only one factor: for resources available when

Table 5

One-Way Analysis of Variance Results for Mother's Sensitivity to Cues Subscale NCAFS Score

Source	df	SS	MS	F	Prob.
Between	1	33.47	33.47		
Within	64	368.79	5.76	5.81	.02*
Total	65	402.26			

Group	Mean	S.D.
Adolescent	11.39	2.55
Older	12.82	2.24

*Groups differed significantly at the .05 level of significance.

Table 6

One-Way Analysis of Variance Results for Response to Distress Subscale NCAFS Score

Source	df	SS	MS	F	Prob.
Between	1	6.68	6.68		
Within	64	225.58	3.52	1.90	.17
Total	65	232.26			

Group	Mean	S.D.
Adolescent	8.79	2.03
Older	9.42	1.71

Table 7

One-Way Analysis of Variance Results for the Social-Emotional Growth Fostering Subscale NCAFS Score

Source	df	SS	MS	F	Prob.
Between	1	32.06	32.06		
Within	64	403.70	6.31	5.08	.03*
Total	65	435.76			

Group	Mean	S.D.
Adolescent	9.91	2.89
Older	11.30	2.07

*Groups differed significantly at the .05 level of significance.

Table 8

One-Way Analysis of Variance Results for the Cognitive Growth Fostering Subscale NCAFS Score

Source	df	SS	MS	F	Prob.
Between	1	14.56	14.56		
Within	64	247.88	3.87	3.76	.06
Total	65	262.44			

Group	Mean	S.D.
Adolescent	4.73	2.14
Older	5.67	1.78

Table 9

One-Way Analysis of Variance Results for the Child's Clarity of Cues Subscale NCAFS Score

Source	df	SS	MS	F	Prob.
Between	1	.24	.24		
Within	64	268.42	4.19	.06	.81
Total	65	268.66			

Group	Mean	S.D.
Adolescent	13.27	2.17
Older	13.39	1.92

Table 10

One-Way Analysis of Variance Results for the Child's Responsiveness to Parent Subscale NCAFS Score

Source	df	SS	MS	F	Prob.
Between	1	5.47	5.47		
Within	64	288.06	4.50	1.22	.27
Total	65	293.53			

Group	Mean	S.D.
Adolescent	7.42	2.25
Older	8.00	1.98

Table 11

One-Way Analysis of Variance Results for the Total NCAFS Score

Source	df	SS	MS	F	Prob.
Between	1	427.64	427.64		
Within	64	4842.12	75.66	5.65	.02*
Total	65	5269.76			

Group	Mean	S.D.
Adolescent	55.52	9.27
Older	60.61	8.09

*Groups differed significantly at the .05 level of significance.

Table 12

Null Hypothesis I: Summary of NCAFS Analyses

Variable	Significant Difference $p < .05$	Older Mother Subject's Mean Scores Higher than Adolescent Mother Subject's Mean Scores
Mother's sensitivity to cues	yes	yes
Response to distress	no	--
Social-emotional growth fostering	yes	yes
Cognitive growth fostering	no	--
Child's clarity of cues	no	--
Child's responsiveness to parent	no	--
Total NCAFS	yes	yes

Table 13

One-Way Analysis of Variance Results for Resources Available in Times of Urgent Needs

Source	df	SS	MS	F	Prob.
Between	1	1.23	1.23		
Within	64	242.36	3.79	.32	.57
Total	65	243.59			

Group	Mean	S.D.
Adolescent	2.91	1.65
Older	2.64	2.21

Table 14

One-Way Analysis of Variance Results for Resources Available to Care for a Sick or Handicapped Family Member

Source	df	SS	MS	F	Prob.
Between	1	1.23	1.23		
Within	64	157.76	2.46	.5	.48
Total	65	158.99			

Group	Mean	S.D.
Adolescent	2.48	1.56
Older	2.12	1.58

Table 15

One-Way Analysis of Variance Results for Resources Available in Times of Problems in Relationships with Spouse, Partner, or Significant Other

Source	df	SS	MS	F	Prob.
Between	1	3.88	3.88		
Within	64	85.15	1.33	2.92	.09
Total	65	89.03			

Group	Mean	S.D.
Adolescent	2.03	1.42
Older	1.55	.79

Table 16

One-Way Analysis of Variance Results for Resources Available to Help or Give Advice for a Problem with a Family Member or Friend

Source	df	SS	MS	F	Prob.
Between	1	1.83	1.83		
Within	64	99.15	1.55	1.18	.28
Total	65	100.98			

Group	Mean	S.D.
Adolescent	2.15	1.25
Older	1.82	1.24

Table 17

One-Way Analysis of Variance Results for Resources Available to Help with Financial Problems

Source	df	SS	MS	F	Prob.
Between	1	3.88	3.88		
Within	64	65.88	1.03	3.77	.06
Total	65	69.76			

Group	Mean	S.D.
Adolescent	2.30	1.13
Older	1.82	.88

Table 18

One-Way Analysis of Variance Results for Resources Available in Times of Loneliness

Source	df	SS	MS	F	Prob.
Between	1	2.97	2.97		
Within	64	113.15	1.77	1.68	.20
Total	65	116.12			

Group	Mean	S.D.
Adolescent	2.45	1.52
Older	2.03	1.10

Table 19

One-Way Analysis of Variance Results for Resources Available in Times of Illness

Source	df	SS	MS	F	Prob.
Between	1	6.06	6.06		
Within	64	132.61	2.07	2.93	.09
Total	65	138.67			

Group	Mean	S.D.
Adolescent	2.64	1.73
Older	2.03	1.07

Table 20

One-Way Analysis of Variance Results for Resources Available When the Mother Is Upset or Frustrated with Life Conditions

Source	df	SS	MS	F	Prob.
Between	1	6.68	6.68		
Within	64	109.09	1.70	3.92	.05*
Total	65	115.77			

Group	Mean	S.D.
Adolescent	2.45	1.58
Older	1.82	.95

*Groups differed significantly at the .05 level of significance.

Table 21

One-Way Analysis of Variance Results for Resources Available When the Mother Is Having Problems at Work in Home or Place of Employment

Source	df	SS	MS	F	Prob.
Between	1	3.41	3.41		
Within	64	113.58	1.77	1.92	.17
Total	65	116.99			

Group	Mean	S.D.
Adolescent	2.21	1.62
Older	1.76	.97

Table 22

One-Way Analysis of Variance Results for Resources Available to Talk with About Personal Concerns

Source	df	SS	MS	F	Prob.
Between	1	.24	.24		
Within	64	67.58	1.06	.23	.63
Total	65	67.82			

Group	Mean	S.D.
Adolescent	1.88	1.11
Older	1.76	.94

mothers were upset or frustrated with life conditions. This difference favored the adolescent mother subjects. The findings from testing null hypothesis II are summarized in Table 23.

Analysis of the Number of Available Social Support Resources Scores and Mother-Child Interaction Scores

Null hypothesis III stated that there would be no significant relationship between the measure of the number of social support resources available to single adolescent mothers and single older mothers and the measure of mother-child interaction. Data were collected using the PRQ-Part 1 and the NCAFS. Two variables were tested using the Pearson product-moment correlation: the total number of social support resources available to single mothers and the total mother-child interaction score. The resulting correlation coefficient of $r = -.01$ indicated that there was no significant relationship between the measure of available social support resources and mother-child interaction. Table 24 displays the percentage of respondents who chose each social support resource across the 10 life situations. The data indicated that the mother subjects chose parent, child, partner, and relative as the most frequent available social support resources in specified life situations. This sample population chose neighbors/co-workers, spiritual advisors, professionals, agencies, and self-help groups less

Table 23

Null Hypothesis II: Summary of PRQ-Part 1 Analyses

Variable	Significant Difference $p < .05$	Adolescent Mother Subject's Mean Scores Higher than Older Mother Subject's Mean Scores
Urgent needs	no	--
Sick family member	no	--
Relationship with significant other	no	--
Help or advice for problem with family member/friend	no	--
Financial problems	no	--
Loneliness	no	--
Personal illness	no	--
Upset with life conditions	yes	yes
Problems at work/home	no	--
Personal concerns	no	--

Table 24

Percentage of Single Adolescent Mother Subjects (A), Single Older Mother Subjects (O), and Total Percentage (T) of Choice of Social Support Across Ten Life Situations

	Parent			Child			Partner			Relative			Friend			[a]Neigh./ Co-wker			[b]Spirit. Advis.			[c]Prof.			[d]S.H. Gp.		
Situation	A	O	T	A	O	T	A	O	T	A	O	T	A	O	T	A	O	T	A	O	T	A	O	T	A	O	T
1. Urgent need	18	43	29	34	21	27	15	12	14	18	9	14	9	3	6	3	3	3	-	6	3	3	-	2	-	3	2
2. Help for sick or handicapped family member	30	52	40	34	12	22	15	18	17	9	6	8	6	6	6	3	6	5	3	-	2	-	-	-	-	-	-
3. Concerned about relationship with partner	52	61	56	21	27	24	12	-	11	9	3	6	6	-	3	-	-	-	-	-	-	-	-	-	-	-	-
4. Family problem	43	61	51	18	12	15	27	18	23	9	6	8	-	-	-	3	3	3	-	-	-	-	-	-	-	-	-
5. Financial problem	27	43	35	37	39	37	18	12	15	15	6	11	3	-	2	-	-	-	-	-	-	-	-	-	-	-	-
6. Lonely	37	43	38	27	24	26	9	24	17	9	6	8	18	3	11	-	-	-	-	-	-	-	-	-	-	-	-
7. Illness	34	40	36	24	30	27	15	21	18	9	6	8	15	3	9	-	-	-	-	-	-	3	-	2	-	-	-
8. Upset with life	27	49	37	43	27	35	12	18	15	6	6	6	3	-	2	6	-	3	3	-	2	-	-	-	-	-	-
9. Problems at work/home	52	52	51	12	30	21	21	9	15	3	9	6	3	-	2	9	-	5	-	-	-	-	-	-	-	-	-
10. Personal problems	52	55	53	24	18	21	9	24	17	15	3	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

[a]Neigh./Co-wker = Neighbor/Co-worker

[b]Spirit. Advis. = Spiritual Advisor

[c]Prof. = Professional

[d]S.H. Gp. = Self-Help Group

N = 66

often for social support. The older mother subjects chose the parent as a source of support more frequently than the adolescent mother subjects in nine life situations. Professionals were selected by a small percentage of the respondents in two life situations: urgent needs and illness. Self-help groups were selected by a small percentage of the respondents in only one life situation: urgent needs.

Analysis of the Perceived Level of Social Support Scores and Mother-Child Interaction Scores

Null hypothesis IV stated that there would be no significant relationship between the measure of perceived social support and the measure of mother-child interaction in single adolescent mothers and single older mothers. Data were collected using the PRQ-Part 2 and the NCAFS. Using a stepwise multiple regression analysis procedure, five measures of the mother's perception of her support were selected based on their significant contribution to the variance (see items f, g, j, k, and q in Appendix B). A summary of the multiple correlation analysis is presented in Table 25. The F value of 5.12 indicated a significant relationship between the measures of perceived level of social support and mother-child interaction at the .001 level of significance.

Table 25

Multiple Correlation Results for Mother's Perceived Level of Social Support Score and Mother-Child Interaction Score

Predictor	N	R	R^2	F	Prob.
Perceived level of social support	66	.55	.30	5.12	.001

Given the small sample size in this study, an estimation of the shrinkage of the correlation coefficient was calculated using formulas presented by Nunnally (1978) and Crocker and Algina (1986). Calculation of the multiple correlation using the formula for shrinkage found in Nunnally (1978) resulted in significant findings ($F(5,60) = 3.806$, $p < .01$). A different formula for shrinkage presented by Crocker and Algina (1986) also resulted in significant findings ($F(5,60) = 2.981$, $p < .05$). This calculation of R^2cv, which is the squared cross-validated correlation coefficient, indicated that the strength of the relationship between the measure of perceived level of social support and the measure of mother-child interaction was lower than the original calculation. A significant relationship still existed, however, between the variables of perceived social support and mother-child interaction.

Since multiple correlation may yield biased results, it will be important to replicate studies so that squared cross-validated correlation coefficients can be calculated

(Crocker & Algina, 1986). By doing so, the accuracy of the sample prediction equation will have been investigated for a group other than the sample in this study.

Summary

In this chapter the social support and mother-child interaction data for the study were presented. The hypotheses being considered in this chapter were concerned with the mother's age and mother-child interaction, differences in available social support resources between adolescent mothers and older mothers, and relationships between available social support resources and perceived social support and mother-child interaction.

Null hypothesis I was tested with a one-way analysis of variance and was concerned with differences in mother-child interaction between single adolescent mothers and single older mothers. There was a significant difference between the two groups on the total NCAFS score and the subscales of mother's sensitivity to cues, and social-emotional growth fostering, which favored the older mothers.

Null hypothesis II was tested with a one-way analysis of variance and was concerned with differences between the measures of social support resources available to single adolescent mothers and single older mothers in 10 life situations. There was a significant difference between the two groups in only one life situation. Younger mothers

reported more available resources when upset or frustrated with life conditions.

Null hypothesis III was concerned with measuring the relationship between the amount of available social support and mother-child interaction. There was no significant relationship found between these two measures.

Null hypothesis IV was concerned with measuring the relationship between perceived social support and mother-child interaction. A significant relationship was found between these measures.

CHAPTER V

DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

Discussion of Findings

The purpose of this research was to study single adolescent mothers and single older mothers by investigating (a) the relationship of maternal age to mother-child interaction and (b) the relationship of social support and perceived social support to mother-child interaction. All mother subjects in the study were considered to be high risk during their pregnancy because of socioeconomic and/or medical factors. This current research was needed to assist professionals in identifying mothers who might need help in strengthening their parenting skills. Previous research had recognized that a child's cognitive development could be influenced by maternal behavior (Beckwith, 1971; Clarke-Stewart, 1973; Elardo et al., 1975). The quality of maternal behavior was also found to be linked to social support networks by Bee et al. (1982) and Crockenberg (1981). This study was designed to provide early childhood educators and health professionals with additional information on the possible relationships of maternal age, social support, and perceived social support to mother-child interaction.

Relationship of Null Hypothesis I Findings to Selected Literature

Null hypothesis I stated that there would be no significant differences in the measures of mother-child interaction between single adolescent mothers and single older mothers. Null hypothesis I was tested by applying a one-way analysis of variance to the data. Each subscale score and the total score of the Nursing Child Assessment Feeding Scale (NCAFS) were examined. Analyses of the data indicated significant ($p < .05$) differences between the two groups on the total NCAFS score and the subscales of mother's sensitivity to cues, and social-emotional growth fostering, which favored the older mothers. Hypothesis I was rejected.

The significance of the associations found between mother's age and mother-child interaction measures was in accord with other research (Field, 1981; Landy et al., 1983; Roosa et al., 1982). Specifically, maternal behaviors were shown to be related to the age of the mother. Adolescent mothers were found to be less responsive to their infant's cues than older mothers and to provide less stimulation to their children in the form of social behaviors, such as vocalizations, social play, and face-to-face interaction.

Transactions between the mother and her child were considered to be of particular importance to a child's

developmental progress. The caregiver's sensitivity to the infant's cues (Ainsworth & Bell, 1975) and the amount and variety of stimulation provided to the infant (Lewis & Goldberg, 1969) appeared to influence the child's level of intellectual functioning.

The scores on the NCAFS seemed to indicate that selected dimensions of mother-child interaction differ between adolescent mothers and older mothers in this population sample. The significant ($p < .05$) findings of the total NCAFS, mother's sensitivity to cues subscale, social-emotional growth fostering subscale, and borderline findings ($p < .06$) of the cognitive growth fostering subscale demonstrated those differences.

Relationship of Null Hypothesis II Findings to Selected Literature

Null hypothesis II stated that there would be no significant differences between the measures of social support resources available to single adolescent mothers and single older mothers. Null hypothesis II was tested by applying one-way analysis of variance to the data. The availability of consistent and varied social support resources that could be counted on in 10 life situations were measured using the Personal Resource Questionnaire (PRQ) Part 1. For each life situation, the subject could select parent, child or children, spouse or partner or

significant other, relative, friend, neighbor or co-worker, spiritual advisor, professional, agency, self-help group, no one available, prefer to handle alone, and other. Analyses of the data showed significant ($p < .05$) differences between the two groups in only one life situation. Younger mothers reported more available resources when upset or frustrated with life conditions. Hypothesis II was accepted.

The subjects in this study appeared to have some available social support during problem situations. The majority of subjects indicated that social support was provided primarily by immediate family members. Many of the subjects chose their parent as the most available source of help in life situations. Children were also frequently chosen as a source of help. An engaging finding was the selection of children as a source of help with financial problems. One might speculate that single mothers may derive financial support on behalf of their children from boyfriends or significant others and/or from other sources such as Aid for Dependent Children. Partners, relatives, friends, and neighbors were not selected as frequent sources of support.

A major concern in this study was to examine differences between the amount of social support resources available to adolescent and older mothers. The results from testing null hypothesis II provided an interesting finding. The average number of resources available for both groups that could be counted on for each of the 10 life

situations was approximately two. Brandt's (1981/1982) research also showed that there were no significant differences between younger and older mothers in their social support resources.

Interpretation of research findings in the social support literature has been problematic. Brandt (1981/1982) found that in analyzing social support resources, a measure of network density may be obtained rather than actual social support. The quantity of resources, therefore, does not necessarily mean adequate support to a person at the time of need. Dense networks may, in fact, adversely affect the mother at a time when her need for support is the greatest.

Adolescent and older mothers in this study demonstrated strong similarities in their available social support resources. Both groups selected immediate family members as sources of support during times of need. Accordingly, one might speculate that kinship behavior existed in this population sample. The notion that social support occurs in modern urban societies has been acknowledged (Litwak & Szelenyi, 1969). Stack (1974) and Dougherty (1978) described kinship behavior in their ethnographic research which to some degree supported the kinship behavior of the mothers in this study. That is, mothers in the study demonstrated strong kinship ties with relatives by selecting immediate family members such as parents and children as sources of help.

Relationship of Null Hypothesis III Findings to Selected Literature

Null hypothesis III stated that there would be no significant relationship between the measure of the number of social support resources available to single adolescent mothers and single older mothers and the measure of mother-child interaction. Null hypothesis III was tested by computing a Pearson product-moment correlation on the data. The measurement tools used to collect the data were the PRQ-Part 1 and the NCAFS (total score). Each variable was represented in a total score. The correlation resulting from testing null hypothesis III was $r = -.01$. Null hypothesis III was accepted. This finding indicated that there was no significant relationship between the measure of available social support resources and mother-child interaction. Why social support was found to be unrelated to mother-child interaction in this sample population was a puzzling question, since previous research in parenting behavior had shown these variables to be related (Crockenberg, 1981). Colletta and Gregg (1981) found maternal behavior to be positively related to an active social support system; and Garbarino (1976) and Bousha and Twentyman (1984) linked inadequate social support systems to child abuse and neglect. Research conducted by Hofheimer (1979/1980), however, indicated no significant relationship between the amount of social support resources and mother-child transactions.

Several reasons could account for the differences in these results. The lack of an appropriate measuring instrument which tests the qualitative aspects of social support was suggested by Hofheimer (1979/1980). Another difficulty with interpreting the results of social support research related to the notion that having a large quantity of resources does not necessarily mean that the support had been adequate during the problem situation (Brandt, 1981/1982).

Relationship of Null Hypothesis IV Findings to Selected Literature

Null hypothesis IV stated that there would be no significant relationship between the measure of perceived social support and the measure of mother-child interaction in single adolescent mothers and single older mothers. Null hypothesis IV was tested by computing a multiple correlation to the data. The measurement tools used to collect the data were the PRQ-Part 2 and the NCAFS. Null hypothesis IV was rejected.

By conducting a stepwise multiple regression analysis on the 25 variables of perceived social support, 5 variables (see items f, g, j, k, and q in Appendix B) were selected to be tested in a multiple correlation analysis with the criterion variable of mother-child interaction (total NCAFS score). The multiple correlation resulting from testing null hypothesis IV was $R = .55$ and $R^2 = .30$. The F value

indicated a significant relationship between the measures of perceived level of social support and mother-child interaction at the .001 level of significance. This finding suggests that a mother's perception of the adequacy of her social support resources may be a critical factor in how she interacts with her child.

A significant correlation between measures of perceived social support and a criterion measure was found in the research by Steglin (1983/1984). In her research, Steglin (1983/1874) grouped five measures of the mother's perception of her support network to obtain a statistically significant multiple correlation coefficient. The findings of her study showed that a mother's perception of social support correlated significantly with a measure of child development ($R = .73$).

If a mother's perception of her social support resources is of significance to her quality of parenting, then professionals must understand the relationship between these variables so that intervention efforts can be more effective. Intervention might be concerned with helping the mother increase her awareness of the resources that are available to her in times of need.

Social support research may need to be concerned with measuring the aspect of perceived social support as well as methods for measuring network characteristics, such as range and density. Social support must be directed by individual need and perceived as helpful by both the donor and

recipient (Shinn et al., 1984). This theory of person-environment fit (Shumaker & Brownell, 1984) was an important concept to consider in matching resources to the perceived need of an individual. Failure to do so could result in dissatisfaction on the part of the recipient and a waste of resources.

Perceived social support seems to occur when there is a clear match between the recipient's perceived need and the provider's response to those needs (Shumaker & Brownell, 1984). Incongruity could occur when the donor believes that the help given is beneficial, but the recipient feels it is not. For example, if assistance is provided to an individual, but the recipient believes a different kind of assistance should have been offered, then the recipient is unlikely to feel that the assistance given was what was needed. Incongruent forms of support may distort measures of social support resources. Providers may offer or give help which the recipient perceives as unhelpful. Insensitive but well-meaning remarks from friends and relatives to distressed individuals is a form of incongruent social support. Resources may be matched to the perceived need of an individual when the provider and recipient have a clear understanding and agreement of what their goals are going to be. If there were a difference in how the provider and recipient interpret their needs and goals, incongruity may occur. When recipients are able to define what kind of resources they need in a situation, more appropriate

assistance can be offered. Thus, evaluation of each individual's needs, goals, and social support resources should be carried out as well as an assessment of an individual's perceived level of support.

If a mother's behavior as a parent is affected by her perceived level of social support as this study has shown, then further investigation of this variable is indicated. Greater understanding of perceived social support will allow the design and implementation of interventions that can facilitate positive social support exchanges. The outcome of such interventions may be the enhanced well-being of the individuals and improved parenting behavior.

Conclusions and Implications

This study was designed to examine the relationship between maternal age and mother-child interaction and the possible influences of social support and perceived social support on the quality of mother-child interaction. Data from the study indicated that there was a significant difference between adolescent and older mothers in the way they interact with their children. Adolescent mothers interacted less favorably with their children than older mothers. The findings also demonstrated a strong relationship between perceived social support and mother-child interaction.

Education and health professionals who deal with mothers should note and/or assess (a) the mother's age and

(b) the mother's perceived social support resources. Younger mothers and those who perceive themselves to be limited in social support services are at greater risk and, hence, interact less positively with their children.

Educators, nurses, and policy makers in reviewing the results of this study should be able to identify specific areas of concern. Concerns center around the issue of teenage parenting style and how variations in mother-child interaction are influenced by social support and/or perceived social support.

Early intervention protocols designed to enhance the competence of the mother perhaps could be implemented in order to prevent some of the conditions that have been associated with inappropriate parenting styles. Parent education programs could be offered to young mothers that would improve their perceptions of their available resources and strengthen their relationships with their social support systems as well. Public educational systems could perhaps modify their curriculum to address the needs of young mothers who may need help in changing their parenting behaviors.

The nature of the results of this study suggests the need for further research. Future research should focus on adequately supported mothers versus inadequately supported mothers to see if mother-child interaction was the same or different. Another research area should be to determine if single high risk mothers are

different in their mother-child interaction than married low risk mothers. Continued research on parenting, particularly of the adolescent, is important to those individuals who are working with this population. A better understanding of how mothers and children relate to each other may lead to more effective use of resources and better intervention policies.

Mothers in this population sample relied heavily upon their kin during life situations, with very little connection with resources outside of the family. This finding should be investigated. Was it because the mothers were unaware of social support resources available to them outside of the kin group? Was it because the community was not perceived by the mothers as a possible source of help? Or was it because the community was unresponsive to those in need? These questions may be important for community leaders and professionals to consider. By doing so, social responsiveness could be directed to the nation's greatest resource--the children.

APPENDIX A

PERSONAL RESOURCE QUESTIONNAIRE

PERSONAL RESOURCE QUESTIONNAIRE (PRQ-85)

by

Patricia Brandt Clarann Weinert, S.C.

In our everyday lives there are personal and family situations or problems that we must deal with. Some of these are listed below. Please consider each statement in light of your own situation. Circle the number before the person(s) that you could count on in each situation that is described. You may circle more than one number if there is more than one source of help that you count on.

Q-1. If you were to experience urgent needs, who would you turn to for help?

1 PARENT
2 CHILD OR CHILDREN
3 SPOUSE OR PARTNER OR SIGNIFICANT OTHER
4 RELATIVE OR FAMILY MEMBER
5 FRIEND
6 NEIGHBOR OR CO-WORKER
7 SPIRITUAL ADVISOR (MINISTER, PRIEST, ETC.)
8 PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9 AGENCY
10 SELF-HELP GROUP
11 NO ONE (NO ONE AVAILABLE)
12 NO ONE (PREFER TO HANDLE IT ALONE)
13 OTHER (EXPLAIN) _____

Q-2. If you needed help for an extended period of time in caring for a family member who is sick or handicapped, who would you turn to for help?

1 PARENT
2 CHILD OR CHILDREN
3 SPOUSE OR PARTNER OR SIGNIFICANT OTHER
4 RELATIVE OR FAMILY MEMBER
5 FRIEND
6 NEIGHBOR OR CO-WORKER
7 SPIRITUAL ADVISOR (MINISTER, PRIEST, ETC.)
8 PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9 AGENCY
10 SELF-HELP GROUP
11 NO ONE (NO ONE AVAILABLE)
12 NO ONE (PREFER TO HANDLE IT ALONE)
13 OTHER (EXPLAIN) _____

Q-3. If you were concerned about your relationship with your spouse, partner, or intimate other, who would you turn to for help?

1 PARENT
2 CHILD OR CHILDREN
3 SPOUSE OR PARTNER OR SIGNIFICANT OTHER
4 RELATIVE OR FAMILY MEMBER
5 FRIEND
6 NEIGHBOR OR CO-WORKER
7 SPIRITUAL ADVISOR (MINISTER, PRIEST, ETC.)
8 PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9 AGENCY
10 SELF-HELP GROUP
11 NO ONE (NO ONE AVAILABLE)
12 NO ONE (PREFER TO HANDLE IT ALONE)
13 OTHER (EXPLAIN) _____

Q-4. If you needed help or advice for a problem with a family member or friend who would you turn to for help?

1 PARENT
2 CHILD OR CHILDREN
3 SPOUSE OR PARTNER OR SIGNIFICANT OTHER
4 RELATIVE OR FAMILY MEMBER
5 FRIEND
6 NEIGHBOR OR CO-WORKER
7 SPIRITUAL ADVISOR (MINISTER, PRIEST, ETC.)
8 PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9 AGENCY
10 SELF-HELP GROUP
11 NO ONE (NO ONE AVAILABLE)
12 NO ONE (PREFER TO HANDLE IT ALONE)
13 OTHER (EXPLAIN) _____

Q-5. If you were having financial problems, who would you turn to for help?

1 PARENT
2 CHILD OR CHILDREN
3 SPOUSE OR PARTNER OR SIGNIFICANT OTHER
4 RELATIVE OR FAMILY MEMBER
5 FRIEND
6 NEIGHBOR OR CO-WORKER
7 SPIRITUAL ADVISOR (MINISTER, PRIEST, ETC.)
8 PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9 AGENCY
10 SELF-HELP GROUP
11 NO ONE (NO ONE AVAILABLE)
12 NO ONE (PREFER TO HANDLE IT ALONE)
13 OTHER (EXPLAIN) _____

Q-6. If you felt lonely, who would you turn to?

1 PARENT
2 CHILD OR CHILDREN
3 SPOUSE OR PARTNER OR SIGNIFICANT OTHER
4 RELATIVE OR FAMILY MEMBER
5 FRIEND
6 NEIGHBOR OR CO-WORKER
7 SPIRITUAL ADVISOR (MINISTER, PRIEST, ETC.)
8 PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9 AGENCY
10 SELF-HELP GROUP
11 NO ONE (NO ONE AVAILABLE)
12 NO ONE (PREFER TO HANDLE IT ALONE)
13 OTHER (EXPLAIN) _____

Q-7. If you were sick and not able to carry out your usual activities for a week or so, who would you turn to for help?

1 PARENT
2 CHILD OR CHILDREN
3 SPOUSE OR PARTNER OR SIGNIFICANT OTHER
4 RELATIVE OR FAMILY MEMBER
5 FRIEND
6 NEIGHBOR OR CO-WORKER
7 SPIRITUAL ADVISOR (MINISTER, PRIEST, ETC.)
8 PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9 AGENCY
10 SELF-HELP GROUP
11 NO ONE (NO ONE AVAILABLE)
12 NO ONE (PREFER TO HANDLE IT ALONE)
13 OTHER (EXPLAIN) _____

Q-8. If you were upset and frustrated with the conditions of your life, who would you turn to for help?

1 PARENT
2 CHILD OR CHILDREN
3 SPOUSE OR PARTNER OR SIGNIFICANT OTHER
4 RELATIVE OR FAMILY MEMBER
5 FRIEND
6 NEIGHBOR OR CO-WORKER
7 SPIRITUAL ADVISOR (MINISTER, PRIEST, ETC.)
8 PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9 AGENCY
10 SELF-HELP GROUP
11 NO ONE (NO ONE AVAILABLE)
12 NO ONE (PREFER TO HANDLE IT ALONE)
13 OTHER (EXPLAIN) _____

Q-9. If you were having problems with your work at home or at your place of employment who would you turn to for help?

1 PARENT
2 CHILD OR CHILDREN
3 SPOUSE OR PARTNER OR SIGNIFICANT OTHER
4 RELATIVE OR FAMILY MEMBER
5 FRIEND
6 NEIGHBOR OR CO-WORKER
7 SPIRITUAL ADVISOR (MINISTER, PRIEST, ETC.)
8 PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9 AGENCY
10 SELF-HELP GROUP
11 NO ONE (NO ONE AVAILABLE)
12 NO ONE (PREFER TO HANDLE IT ALONE)
13 OTHER (EXPLAIN) _____

Q-10. If you needed someone to talk to about your day to day personal concerns, who would you turn to for help?

1 PARENT
2 CHILD OR CHILDREN
3 SPOUSE OR PARTNER OR SIGNIFICANT OTHER
4 RELATIVE OR FAMILY MEMBER
5 FRIEND
6 NEIGHBOR OR CO-WORKER
7 SPIRITUAL ADVISOR (MINISTER, PRIEST, ETC.)
8 PROFESSIONAL (NURSE, COUNSELOR, ETC.)
9 AGENCY
10 SELF-HELP GROUP
11 NO ONE (NO ONE AVAILABLE)
12 NO ONE (PREFER TO HANDLE IT ALONE)
13 OTHER (EXPLAIN) _____

Q-11. Below are some statements with which some people agree and others disagree. Please read each statement and circle the response most appropriate for you. There is no right or wrong answer.

1 STRONGLY DISAGREE
2 DISAGREE
3 SOMEWHAT DISAGREE
4 NEUTRAL
5 SOMEWHAT AGREE
6 AGREE
7 STRONGLY AGREE

STATEMENTS

a. There is someone I feel close to who makes me feel secure...7 6 5 4 3 2 1

1 STRONGLY DISAGREE
2 DISAGREE
3 SOMEWHAT DISAGREE
4 NEUTRAL
5 SOMEWHAT AGREE
6 AGREE
7 STRONGLY AGREE

STATEMENTS

b. I belong to a group in which I feel important.....	7	6	5	4	3	2	1
c. People let me know that I do well at my work (job, home-making).....	7	6	5	4	3	2	1
d. I can't count on my relatives and friends to help me with problems.....	7	6	5	4	3	2	1
e. I have enough contact with the person who makes me feel special.....	7	6	5	4	3	2	1
f. I spend time with others who have the same interests that I do.....	7	6	5	4	3	2	1
g. There is little opportunity in my life to be giving and caring to another person.....	7	6	5	4	3	2	1
h. Others let me know that they enjoy working with me (job, committees, projects).....	7	6	5	4	3	2	1
i. There are people who are available if I needed help over an extended period of time.....	7	6	5	4	3	2	1
j. There is no one to talk to about how I am feeling.....	7	6	5	4	3	2	1
k. Among my group of friends we do favors for each other.....	7	6	5	4	3	2	1
l. I have the opportunity to encourage others to develop their interests and skills....	7	6	5	4	3	2	1

1 STRONGLY DISAGREE
2 DISAGREE
3 SOMEWHAT DISAGREE
4 NEUTRAL
5 SOMEWHAT AGREE
6 AGREE
7 STRONGLY AGREE

STATEMENTS

m.	My family lets me know that I am important for keeping the family running.....	7	6	5	4	3	2	1
n.	I have relatives or friends that will help me out even if I can't pay them back.....	7	6	5	4	3	2	1
o.	When I am upset there is someone I can be with who lets me be myself.....	7	6	5	4	3	2	1
p.	I feel no one has the same problems as I.....	7	6	5	4	3	2	1
q.	I enjoy doing little "extra" things that make another person's life more pleasant...	7	6	5	4	3	2	1
r.	I know that others appreciate me as a person.....	7	6	5	4	3	2	1
s.	There is someone who loves and cares about me.....	7	6	5	4	3	2	1
t.	I have people to share social events and fun activities with.....	7	6	5	4	3	2	1
u.	I am responsible for helping provide for another person's needs.....	7	6	5	4	3	2	1
v.	If I need advice there is someone who would assist me to work out a plan for dealing with the situation....	7	6	5	4	3	2	1
w.	I have a sense of being needed by another person.....	7	6	5	4	3	2	1
x.	People think that I'm not as good a friend as I should be..	7	6	5	4	3	2	1

1 STRONGLY DISAGREE
2 DISAGREE
3 SOMEWHAT DISAGREE
4 NEUTRAL
5 SOMEWHAT AGREE
6 AGREE
7 STRONGLY AGREE

STATEMENTS

---

y. If I got sick there is someone to give me advice about caring for myself.....7 6 5 4 3 2 1

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APPENDIX B

NURSING CHILD ASSESSMENT FEEDING SCALE

USUAL FEEDING TIME (CIRCLE)
YES NO

PERSON OBSERVED IN INTERACTION (CIRCLE)
MOTHER FATHER OTHER

MAJOR CAREGIVER (CIRCLE)
YES NO

TYPE OF FEEDING (CIRCLE)
BREAST BOTTLE SOLID

LENGTH OF FEEDING (CIRCLE)
10 OR LESS 10-20 20-30 30 OR MORE

SETTING (CIRCLE)
HOME CLINIC OTHER

UNIVERSITY OF WASHINGTON
SCHOOL OF NURSING
NURSING CHILD ASSESSMENT TRAINING

FEEDING SCALE
(BIRTH TO ONE YEAR)

RECORDER'S NAME_____

DATE_____

CHILD'S FIRST NAME _____

CHILD'S AGE (IN MONTHS) _____

CHILD'S SEX _____

CHILD'S RACE _____

PARITY_____

MOTHER'S EDUCATION (CIRCLE)
8 YRS. OR LESS 7-8-9-10-11-12-13-14-15-16-17-18-19-20 +

MARITAL STATUS (CIRCLE)
MARRIED NOT MARRIED

MOTHER'S AGE AT BIRTH OF CHILD_____

	YES	NO
I. SENSITIVITY TO CUES		
1. PARENT POSITIONS CHILD SO THAT CHILD IS SAFE BUT CAN MOVE HIS ARMS.		
2. PARENT POSITIONS CHILD SO THAT THE CHILD'S HEAD IS HIGHER THAN HIPS.		
3. PARENT POSITIONS CHILD SO THAT TRUNK-TO-TRUNK CONTACT IS MAINTAINED DURING MORE THAN HALF OF THE BREAST OR BOTTLE FEEDING (50%).		
4. PARENT POSITIONS CHILD SO THAT EYE-TO-EYE CONTACT IS POSSIBLE.		
5. PARENT'S FACE IS AT LEAST 7-8 INCHES OR MORE FROM THE CHILD'S FACE DURING FEEDING EXCEPT WHEN KISSING, CARESSING, HUGGING OR BURPING THE CHILD.		
6. PARENT SMILES, VERBALIZES, OR MAKES EYE CONTACT WITH CHILD WHEN CHILD IS IN OPEN-FACE-GAZE POSITION.		
7. PARENT COMMENTS VERBALLY ON CHILD'S HUNGER CUES PRIOR TO FEEDING.		
8. PARENT COMMENTS VERBALLY ON CHILD'S SATIATION CUES BEFORE TERMINATING FEEDING		
9. PARENT VARIES THE INTENSITY OF VERBAL STIMULATION DURING FEEDING.		
10. PARENT VARIES INTENSITY OF ROCKING OR MOVING THE CHILD DURING THE FEEDING		
11. PARENT VARIES THE INTENSITY OF TOUCH DURING THE FEEDING		
12. PARENT ALLOWS PAUSES IN FEEDING WHEN THE CHILD INDICATES BY: DRY FACE, HALT HAND, BACK ARCHING, PULLING AWAY PUSHING FOOD AWAY, TRAY POUNDING, TURNING HEAD, SHAKING HEAD NO, OR SAYING "NO" OR FALLING ASLEEP OR WHEN CHILD IS IN PAUSE PHASE OF THE BURST-PAUSE SEQUENCE OF SUCKING (75% OF THE TIME).		
13. PARENT SLOWS PACE OF FEEDING OR PAUSES WHEN CHILD AVERTS GAZE, PLACES HAND-TO-EAR, HAND-TO-MOUTH, HAND-BEHIND-HEAD, HAND-BACK-OF-NECK, HANDS OVER STOMACH, YAWNS, RUBS EYE OR DISPLAYS FEET MOVEMENT (75% OF THE TIME).		
14. PARENT TERMINATES THE FEEDING WHEN THE CHILD TURNS HEAD FALLS ASLEEP, COMPRESSES LIPS, PUSHES FOOD AWAY, SHAKES HEAD "NO" OR SAYS "NO," ONCE OR MORE OR AFTER OTHER METHODS (REPOSITIONING, BURPING, OR WAITING) HAVE PROVED UNSUCCESSFUL.		
*15. PARENT DOES NOT INTERRUPT CHILD'S SUCKING OR CHEWING BY REMOVING THE NIPPLE, JIGGLING THE NIPPLE, OR OFFERING THE CHILD MORE OR OTHER KINDS OF FOOD WHILE CHILD IS EATING		
*16 PARENT DOES NOT OFFER FOOD WHEN THE CHILD LOOKS AWAY. LOOKS DOWN, TURNS AWAY OR TURNS AROUND		
SUBSCALE TOTAL (NO. OF YES ANSWERS)		
II. RESPONSE TO DISTRESS (INDICATE IN BOX WHETHER OCCURRED OR NOT IF NO DISTRESS, MARK EACH BOX "YES".) IF CHILD SHOWS DISTRESS DURING THE FEEDING DOES THE PARENT:		
17. STOP OR START FEEDING IN RESPONSE TO THE CHILD S DISTRESS		
18. CHANGE THE CHILD'S POSITION IN RESPONSE TO CHILD S DISTRESS		
19. MAKE POSITIVE OR SYMPATHETIC VERBALIZATION IN RESPONSE TO CHILD S DISTRESS.		
20. CHANGES VOICE VOLUME TO SOFTER OR HIGHER PITCH IN RESPONSE TO CHILD S DISTRESS		
21 MAKES SOOTHING NON-VERBAL EFFORTS IN RESPONSE TO CHILD S DISTRESS		
22. DIVERTS CHILD S ATTENTION BY PLAYING GAMES, INTRODUCING A TOY, OR MAKING FACES IN RESPONSE TO CHILD S DISTRESS		
23. PARENT DOES NOT YELL AT THE CHILD IN RESPONSE TO HIS DISTRESS		
24. PARENT DOES NOT HAVE NEGATIVE OR SHARP MOVEMENTS OR ROUGH HANDLING IN RESPONSE TO CHILD S DISTRESS.		
25. PARENT DOES NOT SLAP, HIT, OR SPANK CHILD IN RESPONSE TO DISTRESS.		
SUBSCALE TOTAL (NO. OF YES ANSWERS)		
III. SOCIAL-EMOTIONAL GROWTH FOSTERING		
26. PARENT PAYS MORE ATTENTION TO CHILD DURING FEEDING THAN TO OTHER PEOPLE OR THINGS IN ENVIRONMENT.		
27. PARENT IS IN EN FACE POSITION FOR MORE THAN HALF OF THE FEEDING (50%)		
28. PARENT SUCCEEDS IN MAKING EYE CONTACT WITH CHILD ONCE DURING FEEDING		
29. PARENT S FACIAL EXPRESSION CHANGES AT LEAST TWICE DURING FEEDING		
30. PARENT ENGAGES IN SOCIAL FORMS OF INTERACTION (PLAYS GAMES WITH CHILD) AT LEAST ONCE DURING THE FEEDING		
31. PARENT USES POSITIVE STATEMENTS IN TALKING TO CHILD DURING THE FEEDING		
32. PARENT PRAISES CHILD OR SOME QUALITY OF THE CHILD S BEHAVIOR DURING THE FEEDING		
33. PARENT HUMS, CROONS, SINGS OR CHANGES THE PITCH OF HIS/HER VOICE DURING THE FEEDING		
34. PARENT LAUGHS OR SMILES DURING THE FEEDING.		
35. PARENT USES GENTLE FORMS OF TOUCHING DURING THE FEEDING.		
36 PARENT SMILES, VERBALIZES OR TOUCHES CHILD WITHIN 5 SECONDS OF CHILD SMILING OR VOCALIZING AT PARENT		
37 PARENT DOES NOT COMPRESS LIPS, GRIMACE, OR FROWN WHEN MAKING EYE CONTACT WITH CHILD		
38 PARENT DOES NOT SLAP, HIT, SHAKE, OR GRAB CHILD OR CHILD'S EXTREMITIES DURING THE FEEDING.		
39. PARENT DOES NOT MAKE NEGATIVE OR UNCOMPLIMENTARY REMARKS TO THE CHILD OR HOME VISITOR ABOUT THE CHILD OR CHILD S BEHAVIOR		
SUBSCALE TOTAL (NO. OF YES ANSWERS)		
IV COGNITIVE GROWTH FOSTERING		
40. PARENT PROVIDES CHILD WITH OBJECTS, FINGER FOODS, TOYS, AND/OR UTENSILS		
41. PARENT ENCOURAGES AND/OR ALLOWS THE CHILD TO EXPLORE THE BREAST, BOTTLE, FOOD, CUP, BOWL OR THE PARENT DURING FEEDING		
42. PARENT TALKS TO THE CHILD USING TWO WORDS AT LEAST THREE TIMES DURING THE FEEDING		
43. PARENT VERBALLY DESCRIBES SOME ASPECT OF THE FOOD OR FEEDING SITUATION TO CHILD DURING FEEDING		
44. PARENT TALKS TO CHILD ABOUT THINGS OTHER THAN FOOD, EATING, OR THINGS RELATED TO THE FEEDING		
45. PARENT VERBALLY DESCRIBES SOME ASPECT OF THE FOOD OR FEEDING SITUATION TO CHILD DURING FEEDING		
46. PARENT TALKS TO CHILD ABOUT THINGS OTHER THAN FOOD, EATING, OR THINGS RELATED TO THE FEEDING		
47. PARENT USES STATEMENTS THAT DESCRIBE, ASK QUESTIONS OR EXPLAINS CONSEQUENCES OF BEHAVIOR MORE THAN COMMANDS IN TALKING TO THE CHILD		
48. PARENT VERBALIZES TO CHILD WITHIN FIVE SECONDS AFTER CHILD HAS VOCALIZED		
49 PARENT VERBALIZES TO CHILD WITHIN FIVE SECONDS AFTER CHILD S MOVEMENT OF ARMS, LEGS, HANDS, HEAD, TRUNK		
50 PARENT DOES NOT TALK BABY TALK		
SUBSCALE TOTAL (NO. OF YES ANSWERS)		

*NEED ONLY OCCUR ONCE TO SCORE "NO"

	YES	NO
V CLARITY OF CUES		
31. CHILD SIGNALS READINESS TO EAT		
32. CHILD DISPLAYS A BUILD-UP OF TENSION AT THE BEGINNING OF FEEDING.		
33. CHILD DEMONSTRATES A DECREASE IN TENSION WITHIN A FEW MINUTES AFTER FEEDING HAS BEGUN.		
34. CHILD HAS PERIODS OF ALERTNESS DURING THE FEEDING.		
35. CHILD DISPLAYS AT LEAST TWO DIFFERENT EMOTIONS DURING THE FEEDING.		
36. CHILD HAS PERIODS OF ACTIVITY AND INACTIVITY DURING THE FEEDING.		
37. CHILD'S MOVEMENTS ARE SMOOTH AND COORDINATED DURING THE FEEDING.		
38. CHILD'S ARM AND LEG MOVEMENTS ARE GENERALLY DIRECTED TOWARD PARENT DURING FEEDING (NOT DIFFUSE).		
39. CHILD MAKES CONTACT WITH PARENT'S FACE OR EYES AT LEAST ONCE DURING FEEDING.		
40. CHILD VOCALIZES DURING FEEDING.		
41. CHILD SMILES OR LAUGHS DURING FEEDING.		
42. CHILD AVERTS GAZE, LOOKS DOWN OR TURNS AWAY DURING FEEDING.		
43. CHILD ACTIVELY REJECTS FOOD OFFERED		
44. CHILD DEMONSTRATES SATISFACTION AT END OF FEEDING THROUGH SLEEP, FACIAL EXPRESSIONS, DECREASED MUSCLE TONE, ARMS EXTENDED ALONG SIDE, VOCALIZATIONS OR CHANGE IN ACTIVITY LEVEL OR MOOD		
45. CHILD DOES NOT HAVE MORE THAN TWO RAPID STATE CHANGES DURING FEEDING.		
SUBSCALE TOTAL (NO. OF 'YES' ANSWERS)		
VI RESPONSIVENESS TO PARENT		
46. CHILD RESPONDS TO FEEDING ATTEMPTS BY PARENT DURING FEEDING.		
47. CHILD RESPONDS TO GAMES: SOCIAL PLAY OR SOCIAL CUES OF PARENT DURING FEEDING		
48. CHILD LOOKS IN THE DIRECTION OF THE PARENT'S FACE AFTER PARENT HAS ATTEMPTED TO ALERT THE CHILD VERBALLY OR NON-VERBALLY DURING FEEDING.		
49. CHILD VOCALIZES TO PARENT DURING FEEDING.		
50. CHILD VOCALIZES OR SMILES WITHIN 5 SECONDS OF PARENT'S VOCALIZATION		
51. CHILD SMILES AT PARENT DURING FEEDING.		
52. CHILD EXPLORES PARENT OR REACHES OUT TO TOUCH PARENT DURING FEEDING		
53. CHILD SHOWS A CHANGE IN LEVEL OF MOTOR ACTIVITY WITHIN 5 SECONDS OF BEING HANDLED OR REPOSITIONED BY PARENT		
54. CHILD SHOWS POTENT DISENGAGEMENT CUES DURING LAST HALF OF FEEDING.		
55. CHILD SHOWS POTENT DISENGAGEMENT CUES WITHIN 5 SECONDS AFTER PARENT MOVES CLOSER THAN 7 TO 8 INCHES FROM CHILD'S FACE		
56. CHILD DOES NOT TURN AWAY OR AVERT GAZE FROM PARENT DURING FIRST HALF OF FEEDING		
SUBSCALE TOTAL (NO. OF 'YES' ANSWERS)		

ENTER TOTALS FOR EACH CATEGORY	
SENSITIVITY TO CUES	
RESPONSE TO DISTRESS	
SOCIAL-EMOTIONAL GROWTH FOSTERING	
COGNITIVE GROWTH FOSTERING	
CLARITY OF CUES	
RESPONSIVENESS TO PARENT	
TOTAL (NO. OF 'YES' ANSWERS)	

HOME VISIT QUESTIONS:

1. WOULD YOU SAY THIS WAS A TYPICAL FEEDING?
   A. YES B. NO
   IF NO, WHY NOT?

2. WERE YOU UNCOMFORTABLE DURING ANY PART OF THE FEEDING DUE TO MY PRESENCE?
   A. YES B. NO
   IF YES, WHY?

3. DO YOU HAVE ANY CONCERNS ABOUT THE FEEDING OR YOUR CHILD'S EATING?
   A. YES NO
   IF YES, SPECIFY

4. OBSERVER'S COMMENTS

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APPENDIX C

CONSENT FORM

INFORMED CONSENT

Dear Parent:

My name is Barbara von Windeguth, and I am a student in a doctoral program at the University of Florida. I would like to ask you to participate in a study that will be concerned with how mothers and children get along with each other. The study will also find out the different resources that are available to give you assistance when you feel you need them. A home visit will be made to interview you and observe you feeding your child. The information learned from this study may help parents like you develop better parenting skills and adjust to parenthood more easily.

There is no risk involved in this study. You do not have to agree to help and your child will get the same care no matter what you decide. If you have any questions, please ask.

Your name and your child's name will not be used in the study or in any reports. You may withdraw your consent at any time. No monetary compensation will be awarded for your participation in the study. You may telephone me for additional information at (305) 233-6411.

I have read and understand the nature of this study. I have received a copy of this description and agree to participate and give my consent for my child's participation.

mother's name	date
witness	date

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BIOGRAPHICAL SKETCH

Barbara J. von Windeguth was born September 21, 1939, in Winter Haven, Florida. She attended schools in Polk County and was an honor student at Winter Haven High School, Winter Haven, Florida.

In 1957, Barbara entered nurses' training at South Carolina Medical Center in Columbia, South Carolina. After graduating in 1960, she worked at Winter Haven Hospital and Polk County Health Department until moving to Miami, Florida, in 1966.

Barbara's educational background includes a bachelor's degree in nursing and a master's degree in adult education. She pursued her doctoral studies in educational leadership at the University of Florida from 1983 to 1987.

Barbara's professional experiences have included staff nursing, public health nursing, and positions in supervision and management. She has served as adjunct faculty in the Schools of Nursing at Florida International University and the University of Miami. Barbara currently has the position of Assistant Community Health Nursing Director for the Dade County Health Department in Miami, Florida. She provides

administrative direction for programs in maternal and child health services.

Barbara is married to Donald L. von Windeguth and they reside in the Redland of South Dade County.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

William H. Drummond, Chairman
Professor of Educational Leadership

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Athol B. Packer, Cochairman
Associate Professor of Instruction and Curriculum

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Molly E. Dougherty
Professor of Nursing

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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Suzanne L. Krogh
Associate Professor of Instruction and Curriculum

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Associate Professor of Educational Leadership

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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This dissertation was submitted to the Graduate Faculty of the College of Education and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August 1987

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Dean, Graduate School